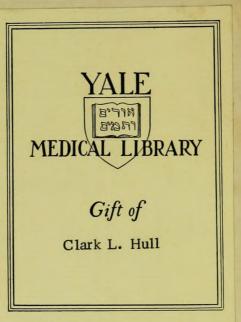
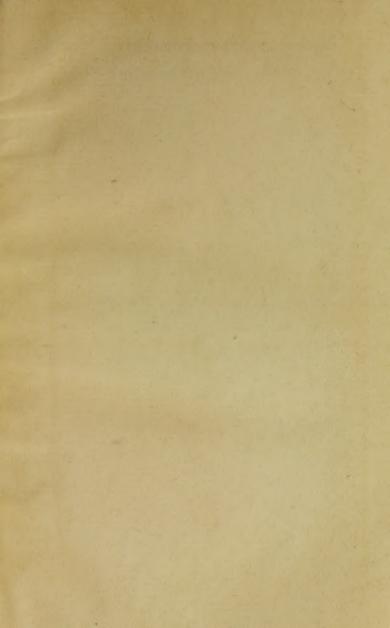


THE CONTEMPORARY
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HYPNOTISM

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# THE CONTEMPORARY SCIENCE SERIES.

EDITED BY HAVELOCK ELLIS.

# HYPNOTISM.

# HYPNOTISM:

INCLUDING A STUDY OF THE CHIEF POINTS OF PSYCHO-THERAPEUTICS

AND OCCULTISM.

DY

DR. ALBERT MOLL.

TRANSLATED FROM THE FOURTH ENLARGED EDITION BY

ARTHUR F. HOPKIRK.

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# **PREFACE**

#### TO THE FIRST EDITION.

In writing this book I was guided by the wish to offer to the reader a survey of all that is most important in the whole province of hypnotism. While in the numerous and detailed works on this subject which have lately appeared, sometimes its therapeutic and sometimes its forensic significance have been exclusively brought forward, I, for my part, have endeavoured to treat hypnotism broadly and from various points of view, avoiding irrelevant matter; and, being aided by my own experiments, I was in a position to add much that was new to what was already known.

I here express my hearty thanks to Professor August Forel, Director of the Cantonal Lunatic Asylum in Zürich, who placed several of his most valuable experiments at my disposal for this book; also to Dr. Max Dessoir, of Berlin, who has assisted me both with his wide acquaintance with the literature of hypnotism and with much good advice; finally, to all who in other ways helped me in the work.

A. MOLL.

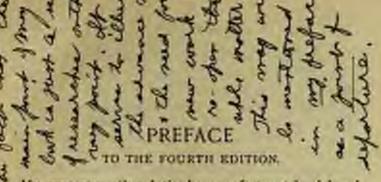
BERLIN,
April, 1889.

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LEON W



My numerous other duties have, unfortunately, delayed the appearance of this edition of my book, in spite of the fact that the third has long been sold out. In the present, fourth edition, I have completely revised my former work and made many important additions thereto. I have endeavoured to bring it into line with our present-day knowledge, and have hid special stress on the universal importance which has become attached to hypnotism and suggestion during the last ten years-I have given the narrowest limits possible to the concept surgestion, with the view of better differentiating suggestion from other psychic process than was formerly done. Relatively speaking, the fewest alterations have been made in the chapters on symptomatology and post-hypnotic suggestion. Very little has been added to our knowledge of these questions during the last few years, and it would appear that this branch of hypnotic research is fairly exhausted, though, of course, it may one day happen that it will have to go through a searching revision which will prove instructive.

In the chapters which treat of the various theories of hypnotism I have endeavoured to throw fresh light on the experiments I originally made for the purpose of explaining the phenomern. But I adhere to the position I primarily assumed—to wit, that certain premises must be accepted if we are to explain

hypnotism. We shall be far more likely to arrive at a proper conception of hypnosis by reasoning from analogy than by paying any attention to misty psychological concepts or physiological experimenta which our present knowledge of ultimate cerebral processes is quite unable to explain. I have added a chapter dealing with the general influence that hypnotism and auggestion have had on medicine: the first part of it is devoted to theoretical medicine and the far-reaching effects of hypnotism on this branch of the question; the second part contains a study of the calient points of psycho-therapeutics. I have done this because psycho-therapeutics seems to me to be a developmental outcome of hypnotic and suggestive therapy, and ought, therefore, to be distinguished from hypnotic therapeutics, which only constitutes a small branch of general psycho-therapensis. Attention is also drawn to the connection that subsists between hypnotism and the science of psychology, especially with regard to the important part played by suggestion in all psychological investigations. I have also discussed the influence of suggestion on other questions, such as art, superstition, ethnology, etc., much more fully than in the earlier editions of this work. My reason for doing this is the tendency nowadays to overlook the influence of modern hypnotism on the most varied branches of science and the different phenomena they present. The revised chapter on the legal aspect of hypnotism will be found to contain much fuller details than in former oditions. I have shown in it the close historical connection that subsists between the psychology of testimony and hypnotism.

The last section of the book-that dealing with the

most important points connected with occultism-has been considerably enlarged. I felt bound to extend this chapter: first of all, because hypnotism has brought to light many sources of error in this connection, and secondly, because real criticism affords us the best means of stemming the tide of the uncratical advocacy of occultism. It cannot be denied that belief in occultism has increased in recent times. I do not assume this merely from the increase in the number of occultistic societies and periodicals, but rather because private conversation has consinced me of the fact. I have also observed an increased tendency on the part of the public to mystery-mongering. I need only recall the epidemic of "faith-healing," the sensation caused by the so-called "sleep-dancers," the way in which many people were upset by the doings of the horse "Clever Hans," the uncritical praise bestowed on the diviningred, and the medical miracles of such individuals as Kneipp, etc., etc. The fact that so many worthy men of science have taken to this mystery-mongering is not calculated to make future generations have much respect for the present age. That a man like Crookes should believe that Home could overcome the force of gravity without employing any mechanical means, that Lombroso should believe that Eusapia Palladino could move objects by the action of her will alone, that Stumpf should believe that a horse could be educated like a child and be influenced by telepathy, that Richet should believe that the murder of the Servian royal family was foretold in Paris by occult means-all these things are but instances of the errors that otherwise competent investigators may make. For they are nothing but cases of error, not because the investigators attempted to explain the impossible, but because they

based their conclusions on imperfect data, and did not see the pitfalls before them. These scientists and others like them, prove that a man may be proficient in his own special branch and yet quite incapable of criticizing other methods of research. In spite of these and other authors who expects a belief in occultism and spiritism, I can safely say, not only as the result of my own experiments but also from a careful study of numerous occultistic and spiritistic works, that I have never come across even one single experiment carried out under strictly scientific conditions that could be said to justify the assumption that occult forces exist. One of the biggest swindles perpetrated by occultists is the way in which they promise beforehand strict adherence to scientific conditions, and then do their utmost to prevent such conditions being observed.

In spite of my most earnest indinvours, I have never been able to detect even the slightest approach to occult phenomena, provided strict conditions were observed; in all these investigations the assumption of animal magnetism, telepathy, elairogrance, etc., was altogether superfluous. I am, of course, just as willing in the future as I always have been in the past to investigate, ander the conditions enjoined by science, all cases of mediums, magnetizers, etc., etc., who profess to possess occult powers, for I consider à privri negation just as unscientific as those swindles and frauds connected with occultism which I have so strongly condemned.

ALBERT MOLL.

Sc. Heisen, Juney.

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# HYPNOTISM.

#### CHAPTER L

THE RESTORY OF HYPMOTHEM.

In order to undentand the gradual development of modern A hypnotism from somal magnetism, we must distinguish two points: firstly, the belief that there are human beings endowed with a power not acting by suggestion, but by means of which they can exercise an unwanted influence over others, either by direct contact or seen from a distance; and secondly, the fact that a particular psychical state, which we term hypotonic, can be induced in human beings by means of certain actions. This second fact has long been known; it was frequently interpreted in a fallacious manner, and was utilized, more especially by Oriental peoples, for milgious purposes and imperatitious customs. Kiesewetter attributes the early soothcaying by menta of precious stones to hypnosis, which was induced by steadily garing at the stones. This is also true of divination by gizing into vessels and crystals, as the Egyptians have long been in the habit of doing (Rousi), and as has often been done in Europe-by Cagliostro, for example, Boofigli believes that his essay on Carliostro proves that the well-known adventurer was fully acquainted with the means of inducing hyprosis, and primites that Caglinttro had been taught in his youth how to hypnotice by Althoras, eases the latter was served in physical science, Oriental languages, and the hypnotic art of the fakers. The hypnotic phenomena are also found to have existed several thousand years ago among the Persian Mags, as well as up to the present day among the Indian yogis and fakirs, who throw themselves into the hypnotic state by fazzion of the gaze. Relying on a statement of Stein, Proper believes that the condition of a Japanese religious leader, who lived long before Christ, was also an auto byonoses, and that this kind of

devotion cause to Japan from India. Gumperta, 600, has given detailed peoof that hypnosis played an important part in the religious philosophy of ancient India. Many Indian priests and monks estmently endeavour to account a knowledge of religious philosophy and the power of self-inducing a state of france, i.e., two apparently beterogeneous things. Gumperte, therefore, act to work to lighous these two phonomena, and at the same time discussed the spontion as to whether the self-induced trance has anything to do with hypnosis or not. He has come to the conclusion that, even if alight mention is made of external suggestion, we have been to deal with conditions set up by auto-magnetion. Various investigators maintain that the state produced by hypnosis is expected to facilitate the arquinition of a higher degree of knowledge. In his graduation thesis published in 1803, Hermana Walter deals with the lineature concerning the method of inducing yegs along from which Schrenk-Nothing concludes that the neural couployed are in part the same as those used in inflicing hypnosis--preparatory steps, abstection from anything calculated to excite the emotions, concentration of the thoughts, etc.; but he considers that the Indian costance carried out these measures to a superlative degree. Regnier also, in his book on L'Hypertiese et les Conjuncies autremes, gives much authentic information concerning the part played by hypnosis and auto suggestion in the religious correless of the Indians, Persians, Egyptions, and Jews of old. On the strength of information communicated to him by Adolf Harnick, Persur concluded that the self-induced insensibility of the Montanists, a Christian sect of the accord century after Christ, were of auto hypnotic character. The Montanitts were also called Taskodrugites (rareos ferefugus, and dynogus stose), because shey were accustomed to hold the finger to the mouth and note during prayer. Brugsch Pmlm also tells of gentaine hypnotic conditions which were produced in the Egyptian Georgie schools of the first curtury during divine worship. At such times the eyes were closed and various hallucinations appeared, especially apparaisons of gods. The same thing has occurred since the eleventh century in many consesses of the Greek Cherch (E. L. Fricher). Among the best known we the Heavelants, or Omphalopsychiats, of Mount Athen, who hypnatize themselves by gating at the umbilious. I take time reportenity of pointing out that the fact has often been verifical

in popular opinion, that it is possible to induce sleep by looking fixedly at the tip of the none. Apart from the yogo and fakin, hypnotic conditions are found among various peoples in the present day. In a secent seport from Abyssin a we are told that the Kehascha! children are trained to detect crims. These children, when hypnotized, are said to be able to detect a criminal even at a very great distance. One of them is stated to have run for sixteen miles without stopping, and then to have unranthed the criminal directly it unived at his hidingplace. Michard informs us that the Annanites employ bypnotism for religious purposes; in these cases bypoosis is attained by the subject fixing his gaze on two burning sticks attached tehind one car of the magicine, who term his head. Hypnotic conditions appear often to occur among uncivilized peopler, as is clearly to be gathered from the information of many may ders. That eminent ethnologist the late Professor Bastian, of Berlin, sointed out long ago the near relationship of many phenomena among ancivilized populations to hypoction. Bastian believed that a more exact study of hyprocess by individual travellers would be of great service to ethnological psychology; the phenomena which occur spontaneously among untivided peoples could they be more excelelly examined and Inought in closer relation to artificial hypnoxic

The estaclogist Stell also, in his comprehensive work, Suggestion and Hypnosis in der Volkerpsychologie, a second edition of which appeared in 1904, gives many details concerning bypnotic conditions among sanous peoples and in various ages. Gertainly the book does not treat specially of hyperonis, but deals more with angression in general, to which Stoll gives a very wide range. Still, numerous instances are given of states which we enamed but consider hypothic, or auto-hypothic. For example, he mentious hypnosis mining the Mongols and Chinese. According to him, the auto-hypnatic state is brought into play by the Chinese snotheavers of West Borneo for clairvoyance, and in the treatment of disease. The autohypnoticed soothusyers give verbal or written answers to any questions which may be propounded to them. Stell also sells of the hypothic manipulations of the Tagala. A lidy of his arrganintance, long resident in Mamila, allowed herself to be hypnotized for insorants by a Tagal woman, who had acquired

<sup>&</sup>quot;Suit water "Lebaichi": in many armipapers it is spelled "Latenche."

but knowledge of measurement from her mother and her genedmother. In this instance verbal suggestions, such as "Houte speak" and "Shut your eyes," were also employed to promote the oract of sleep. Lake many other investigation, Stoll holds the view that the distinction which has so often been scade between the civilized and metrificed, in respect to amohypnotism, is not possible, since even among striked traces the characteristics of arrages utill his at the foundation. Nietzsche also represend the opinion that certain dreamy conditions, which among the rivilized occur during sleep, among arrages often occur in the waking condition. The perfect cleanurss of dream ideas, which prisupposes an unconditional faith in their reality, recalls conditions of primitive humanity

when hallocinations were extraordinarily prevalent

Independently of this production of particular psychic states, there has existed at all times in many quarters the bullef that purticular individuals could influence their fellows by the exercise of certain powers. This influence could be used us well for good as for each. Of the first was we are reminifed by the laying on of hands in besenfection; also by the healing by touch which was obtained by the old Egyptians and other Original nations; numerous old monuments testify to this. The Ebers Papprus also, which represents the state of Egyptian medicine before the year 1552 n.C., and of which Jeachim has mule a complete German translation, contains a statement according to which the laying on of hands on the head of a patient plays a part in his treatment. We see the same thing later in the cures which Kire Pyrthus and the Emperor Venpasian are said to have affected. It is known that Francis L of France, and other Forsch kings up to Charles X. (Perty), healed by the imposition of hands. As Victorit mentions in his work, Medicine in Universal History, kings of England performed similar acts and thereby aroused a feeling of calousy between the two nations. An Englishman marned William Tooker upheld the priority of the English kings; but Andreas Laurentius, Physician in ordinary to Henry IV. of France, proved but a very mean champion of his sovereign's claims. It was compromary to attribute the action of this individual power to contact; however, this appears not to have been always necessary, as is witnessed by the wifespeead and continued belief in sorterers, who can be witch other persons. not only by contact, but even from a great distance.

This belief in the special powers of certain individuals still costs among uncivilined and even civilized peoples. Healing by breathing and by contact, as Bursine described it in Gapana in the sighteenth certairy, as well as similar processes determined by Fother Bryort in California, must have be received. Summons facts of the same codes stay be found in the writings of travellers, and especially in the works of Eastian and Stoll. Among the Molammedium also there are persons who enjoy the reputation of postensing special powers of healing. Whoever has seen the howling derivates of the East will have observed that the Sheik, in attempting to lead the sick, especially children, breather on them, or touches them, and often treads with the foot.

The question here is only of solitary faces, in which no acceptific system is discoverable; and it was not till after the end of the Middle Ages that an attempt to set up such a system was made. It was developed one or astrology, the doctrine which teaches the utilizance of the slats upon men. Even nevertary we find remains of it, especially in the belief in the influence which the moon is supposed to exercise. Many people espect warm to disappear as the moon waren, while more modern specialists in mental disease have been known to call in the influence of the moon to explain special periodical mental disturbances.

About 1530 Theophrasus Paracetars came forward with the sheary of the effect of the heavenly bodies on markind, note especially on their discuss. Our of this the theory gradually developed that not only did the stars influence men, but that men mutually influenced each other. Van Heimort (1577-1644) taught with more precision that man possessed a power by means of which he could magnetically affect others, especially the sick. Perhaps Helmort obtained the main features of his system from Goelenian (1572-1621), a learned physician and professor of physics at Markang.

Later to (about 1065) the Scotsman Maswell advanted a theory of magnetotherapeutics of his own, based on the work of Robert Fludd, Andreas Tentrel, and others. According to this theory, everybody is supposed to emit rays evincing the presence of the sual, and these ergs are endowed with a vital agent by means of which the soul performs its actions. Now, the animal excreta contain a portion of the vital spirit; hence Maxwell attributed to them an effect upon human beings; they

could be utilized for the curing of diseases (sympathetic cures); also men could cure themselves of diseases by transferring them to anima's and plants. A remeant of this system developed by Maximall still exists in country places, where people occasionally apply excreta to their wounds. Adolf Witke, in his work on popular German superstations of to-day, treats in detail of the transference of discuse from one person to another; as, for example, the prevalent belief among Thuring any that if a person suffering from massi cutanth wrap up a copper coin in a piece of paper into which he has blown his nose, and throw it backwants over his shoulder into the street, then the cold will be transferred to the individual who may happen to pick up the pucket. Maxwell also assumed the existence of a vital spirit of the universe (approve awalia), by means of which all bother are related to each other; a theory we meet later on in Menner's universal fluid. In the heginning of the eightsenth century we. find Santanelli in Italy assenting a like proposition. Everything material possesses a radiating atmosphere, which acts magnetically. Samanelli, however, recognized the great influence of the imagination (Avi Lallemant).

Although the femalation of the doctrine of animal suggestion was thus field, universal attention was first drawn to it by Mesney, a Victorese doctor (2734 1815). He studied in his dissertation the influence of the placets on human bodies. In the year 2725 he sent out a carcularisetter particularly addressed to several analomies. In this he maintained the mistorice of acreal magnetism, by means of which persons could influence each other. He, however, distinguished mirral magnetism from the magnetism of minerals, which he at first used in the treatment of discusses, but later on ceased to supply. The only analony which repired to him was that of Berlin, at Salarr's instigation, and its reply was unfavourable. However, about this time Mesney was normated a

member of the Baratian Academy.

Mesmer made much use of "animal magnetion" in the treatment of disease. He cuted at fest by contact, but

<sup>&</sup>lt;sup>3</sup> The same is also written "Measurer," instead of "Measurer"; the lattic spelling is, however, decidedly the consect one. As least is to constain in the tank which Measure blanck's brought cet, Gaussia Arylandiew of Measurer, by Measure Collection, 1815. However friend, Wolfard, and Inchanginghas, Judician Kerner, the error the many with tank".

believed later on that different objects of wood, glass, iron, and so forth, were also capable of receiving the magnetism. Consequently he made use of these as means for conveying his magnetism, especially lates in Paris, where he went in 1778, chiefly in consequence of the establish he had around in Victims. In Paris, Messair constructed the Acquir, which was magnetized by him, and which was supposed to transmit the magnetism. Bailly represents it as a very complicated apparatus; on oak chest with appendages of iron, etc., Mesmer found many adherents in Paris, but he also incountried many opposition. Dr. Deslan, a Parisian physician, became one of his chief adherents, and was rublessly attacked by his colleagues in consequence. The Faculty of Medicine, In particular, was most severe in its attacks on the new teaching and when starty physicians continued to practise magnetism in spite of warning, issued the following circularletter o- "In figure no doctor will be allowed to write favourably of minual magnetism, or practise the same, on penalty of losing his professional privileges" (Ochorowicz). From this we perceive how interes the intolerance of the medical schools of these days was, and with what bittemess heretics were persocuted. Several scientific commissions which mammed the question pronounced, in 1584, against the existence of armual magnetism-more particularly that of which Bailly was reporter. One of the members of the commission, Justice, made, however, a report that was not considered decisive. No one, however, denied that farreaching effects were produced by intagination; it was only denied that these was a physical force resembling the magnetion of minerals. In spite of all attacks Mesmer made disciples. His pripile and successors are generally called memorists, and the doctrine of unimal magnetion is also railed memorism, with magnetism, biomagnetism, thera-pentic magnetism, or coomagnetism.

I do not such to join the contemplate group of Messer's parameters absolvers. He is death and any no longer datend himself from those who dequirage this without taking into consideration the circumstrators or the time in which he lived. Against the aniversal opinion that he was avaisions. I remark that he vicesus, so well as latter in Mostleng's not Paris, to always height like poor subhout reports. I believe that he could be his only, and not his personal in his only, and not his personal

<sup>2</sup> Also spain Mountains.

chances. Let be complet, however-for hilerar it night to opposit the homely of one was to dead-more closely in what his adopted great entire constant. He televed at the legisting that he could bent by wante of a suggest, and later that he could do so be a percent individing time that he could human to the Aspect. This was evidently his firm conviction, and he never mate a secret of it. Others believed that a partient's more insignation ployed a part, or that Messen produced his effects by some controlled seeins. These by depress, arose the legend that Manner presented some score by means of which he was able to produce effects on people, but that he would use several to. In reality the question was not at all of a secret proposely kept back by hirs, since he imagined that he exercised some individual force. Firstly, if he send this appreciations force for the purpose of earning money, he did nothing some than the modern physicians and proprietors of publication who thereins do not follow their ralling from pure lone of their neighbours, and seek to east their new living, as they are gate junified in thing. Momen did not splane were thus these who movedays discover a new door, and regard the numbers of it as a mean of emiring throughou. Let us be just and grate to elevelse Meseure, who did only what is flow by the people just mensioned, against whose procedure no one raises a word of protest, easy when the deep step eated process or the specific projection whatever. Farrier, Colquitons, who is throughly communic with the create of the period, updes that Mounts were made many as much unasy as he is said to love they (Structil). That those who delene Memor have the tion about his tracking and the particulars of his life, is very clearly shown by a whole assist of numbers in the or hyperman

A follower of Meaner, Chastenet de Payagur, discovered in 128a, a state which was named antificial semicambelium. Apart from some falmly interpreted phenomena (thought-transference, clairvoyance, etc.) the chief characteristic of this state was a sleep, in which the ideas and actions of the magnetized person could be directed by the magnetizes. Whether Meaner knew of this condition or not is uncertain, but it access to me probable that he did. About the same time Pecetia, a doctor of Lycon, occupied binnell with magnetism; busides catalogsy, Petetin describes phenomena of across-transference thereing with the storage). The Paench Resolution and the was represent the interpretation of magnetism in France until about the year 1813.

In Germany, animal magnetism was recognized at the same time in two different plants—on the Upper Rhine and in Rossen. In the year 1786 Lavater paid a visit to Bremen, and exhibited the magnetizing processes to several doctors, pursualasts to Winsholt, through whom Albert, inclose, and later on Heinekey, were likewise made acquisited with magnetism (Sierke, Wembolt). Became was for a long time a

focus of the new doctrine; the town was often even brought into bad repute in the rest of Germany on account of the general thislike to animal magnetises. About the same time the new doctrine spread from Strassburg over the Rhine provinces; Bockmann of Carloube, and Guelin, of Heilbronn, occupied themselves with it; later on they were joined by Perold, of Dresden. Getting encouragement from Bremen. people began to make experiments in other parts of Germany. Selle, of Berlin, brought forward, in 1789, a seven of experiments made at the Chante, by which he conferred a part of the alleged phenomens, but excluded all that was supermatural (clairstyrner). In Berlin magnetism was taken up by the Court. According to Vehse, magnetizers flocked to the palace where Prederick-William II. by III, and one of them in particular, a Parisian named de Beattenoir, treed to induce Countess Lichtenson to obtain his administer to the sickchamber. He advised the imposition of a magnetic hand to ensure the king's recovery, and asserted that his own, or the Parisian de Puyégsur's, ce Count Bruhl's would suffice.

Notwithstanding the early dislike to it, magnetism fieally gained ground in Germany. It flourished very much during the first twenty years of the nineteenth century, and many fournals were devoted to its advocacy. In Austria only it made no progress; indeed the exercise of animal magnetism was forbidden in the whole of Austria in 1815. In the cest of Germany, however, many dectors began to occupy themselves with the question, and at first is a thoroughly scientific manner. I do not enter more fully into the details of the teaching of different individuals, as they have no close connection with hypnorism. In the main two different tendergies can be distinguished-one entiral and scientific, and the other mystical. While the first had the preponderance in the beginning, later on the last came to the fore and proved fatal to imprecion. Besides the scientific investigators already meditioned I may name Trevenum, Komer, Passavant, Klego; also Pfaff, who attacked clairvogance in particular; and further, Stiegiste, Fr. Hufeland, and C. W. Hufeland. The last, who was at first are opponent, acknowledged certain faces later on, but excluded all that was supermatural, and thus dowupon himself the hatred of the mystics. Even in 1834 C. W. Hundand expressed himself in recogning the existence of around magnetism and its value in healing. Among the

mystles I may mention Schelling, Ziennann, Rachemaryer, Juntimus Kerner, the well-known poet and oditor of the Secret of Present.

In the year #812 the Government sent Wolfer from Berlin to Mesmer at Ferrenfeld, in order that he might there make bimes! sequented with the subject. Welfart came back a thomagh adherent of Message, introduced magnetism into the hospital treatment, and afterwards became a professor at the university. A price which was offered by the Berlin Academy of Sciences, at the request of the Prussum Coremment, for an every on Animal Magnetism was, it appears, withdrawn, However, around magnetism flourished to an extraordinary extent at that time in Berlin, and Berlin physicians placed a monument on Macmer's guree at Monstony. The well-known physician Koreff, also, of whom Curier said later if he were not already in Paris he must be entreated to come there interested binnelf much in nugretion, and often made use of it for healing purposes so long as he leved in Betlin. Virginia complained in his address as Rector of the University, in 180 t. that the Chancellor of State, Hardenberg, had, in a846 and again in 1817, with the full concurrence of William v. Humbolds, expressed an extrest with to promote Wolfart and Koreff, the chief representatives of animal magnitism in Bullia. The extent to which unional magnetism had gained ground in Berlin at that period may be Judged from the fact that theological students received instruction in physiology, pathology, and the treatment of sickness by vital magnetism. It was Mesmer's idea to teach magnetism to the charge, and this may account for the assumption on the just of a few individuals-Nicolai and Easter at Build, for instancethat the only object of Messner's teaching was to restore their lost power to the Church and the Jesuits.

The estitute of the Unbelie Church to animal sequences has often have discussed. Christal automatics were frequently school if the use of extend magnetism in the treatment of discuse were personality. Such a question was propounded in Roses in 15 at, and, necuring to Guesser, the Guesse Penistrative Castescence replied in the following consensus common terms:—At havy decision might enlarges the however of the 1854 Chairs and the question was not at a restore to reconsists an innereliste concession being come to, because he danger would be seen by no-expansing judgment. The Catholia Church had eased an general argoriton to the use of record magnetism is individual trans, but had tasilly permitted it, though the had probabil against many thoses.

In the rest of Germany, also, many investigators occupied themselves with animal magnetism; in several universities a knowledge of the phenomena was spread by means of fections -for example, by Wolfart in Berlin, and by Bartels in Reeslau. In 1821, Fritre, the Mandeburg physicist, began to occupy hinsself with magnetium, and in 1853 Varges, who had commenced his investigations at the same time as Fritze, published the result of his experiences since affer. In South Germany also the importance of animal magnetism began to be better recognized, and in 1818 Haberl, of Munich, employed it in the treatment of disease in the hospital of that town. As many authors inform us, a royal order in February 1817 made magnetization in Prussia the privilege of physicians only; but in the official code of taws nothing is to be found on the subject. At the same time such laws were entered in other countries. Magnetian was introduced everywhere, especially in Russia and Denmark, in which countries medical men were bound to report periodically to the authorities the results they had obtained with animal impactions (Brando). In Holland such dotinguished physicians as Bakker, Walthers, and Hendrikse devoted themselves to the study of minut magnetism; but in Switzerland and Italy it was at first received with less empurity.

After Mosmer had left France in the time of the Revolution, in order, after peological travels, to actile himself at his native place on the Lake of Constance, magnetism only regained its Repentance in France at the beginning of the last century. In Germany it was chiefly the medical profession which haned to the study of animal magnetism. True, a number of French electors experimented with it, and Esquitol states that in 1813to be made use of a in eleven cases of mental disorder, but without producing even the slightest improvement in the condition of the patients. Nevertheless, in France meanterism for the most part fell into the hands of laymen. Here Deleuse may be until med as one of the earnest investigators. But the whole doctrine secessed a great imparts through the Athie Faria, who came to Paris from India. In 1812-15 he showed by experiments, whose results he published in part in 1819, that no unknown force was necessary for the production of the plantement: the came of the sleep was in the person who was to be sent to sleep all was subjective. This is the main principle of hypnotism and of suggration, of which Faria made

use in inducing sleep. General Noines allowed the Abbi to experiment on him, and even if he did not fall into a deep elega a condition which we immedays call the lighter degree of aspeons was induced. The General relates that he was unable to open his eyes until Farm allowed him to. Shortly afterwards the Abbe was suspected of fraud, simply because he was micked by an actor who had been persuaded to high sleep while prefending to submit beneatly to the popular of hypnoticing. Thus Faria, a thoroughly honourable man, was set down a swindler, in spine of the fact that for a long time he along almost, held the only true view of mesmerism; while, na Ochorowicz reproachfully states, not a single scientist gave timself up to a study of the question. Little on, in France, Noiset, whom we have mentioned above, 2000 a physician named Bertrand, payed the way for the doctains of suggestion, in spite of much inclination to animal magnetism. In 1820, experiments were begun in the Paris busyitals, chiefly under the direction of Da Potet. At the proposal of Foissac, and at the recommendation of Hussen, the Pany Arademy of Medicine in 1826 appointed a Commission to examine the question of animal magnetiers. The Commission worked for six years, and pronounced a freezerable apurson in 1811; but the Academy was evidently not convinced. In spite of several further experiments—for example, those of Berna-no other result was obtained. Particularly became the third emphasis was laid on the mystical side of the question, the straigle was made substantially easier to the opposents of mammatus, among whom Dubois was prominent. The candidates for the rate-trated Bardan prize for clairvoyance, Pigeare, Habber, and Teste, faded to obtain it; and in 1840 the Arademy declined to discuss the question futher. Neverticiless, animal magnetism retained numerous adherents in France, particularly in lay circles; and in the following years several works were published on the question. I may mention those of Aulian Gautier, who made many valuable contributions to the history of unimal magnetism, and Ricurd's estimative treatise on the theoretical and practical bearing of the doctrine. Pages du Potet, too, must be mentioned. In brief, the doctrine retained many adherents, not cells in Paris but in other literach towns. as well-for example. Haves.

Meanwhile, in Germany a few investigators still braved themselves with meatperion. I find that in 1818 the University of

Leipzig published a graduation thesis by Wendler, entitled De Magneticul unimalis efficacio ette disedicando; and another in 1826, by Volkmann, Olospanious Molegies & Magnetisms assimili. But is the main, after about 1820, the belief in animal magnetises declined. This retrogression was caused at much by the lise of the exact natural sciences as by the amelentific and americal hanketing after mystical phenomena, which could not but precit arrious investigators. Mesmerism flourished relatively the longest in Hamburg and Brotten, whose Sioners was its advocate; and also in Bayaria, where Hentler and Ennemoser, between the years 1850 and e840, still represented it; and as late as a857 Worm, a Musich shysician, published an enchusingtic book on meanerism in the treatment of discree. In other town we likewise find a number of choughtful inquirers, who allowed themselves to be influenced neither by the passion for the wonderful nor by the attacks of the principal opponents of magnetism, and who sought to defend their position in a thoroughly sciencide manner; Most, Fr. Fischer, and Hirschel may be mentioned. A series of philosophers and philosophical writers also has believed firmly and persistently in the maley of the phenomesa, phhough not much regard has been paid to this fact; for example, Schopenhaner, Caras, Place, and Wirth.

About the middle forties of last century the waning fre of animal magnetism burst somewhat more strongly into flame in overal towns simultaneously. In Vienna, on Einemsein+ menumendation, a Commission of Insustigation was appointed, on which Gantner, Schult, Dunreicher, and other Viennese physicians sat; but according to the report published by Goure. the commission expressed itself as vigorously against the existence of animal suggestion as Commak had done a short time before. The excitement also caused at that time by Reichenbach's theory of the "Od" could not bely bringing fresh adherents to the came of animal magnetism. Fechaer, in his reminiscences of the last days of the theory of the Od, thus defines the Od mell -"According to Reichenbach, the Od is an imponderable force, analogous to electricity and to magnetium, but differing more of less from the latter in the phenomens it exhibits, and in following its own special laws," a Considering the close relationship that subsists between the theory of the Od and that of arrmal magnetism, it is easy to



understand that the promulgation of the former necessarily

boought fresh friends to the latter.

Although magnetism gradually tost nearly all its subserents in the accentific world, among the people the belief in the mysterious force continued possilent. In Germany, however, as well as Austro-Hungary, where Counts Suipary and Malifith were well known in this connection, but more pieticularly in France, a whole teries of laymen continued to use animal magnetism for bealing purposes. The more science diew back, the louder became the clumour of the quarks. But the more intentional transl and cheating increased, the louding inclined were unionly misded persons to interest themselves in these anestions.

In England, in spite of the efforts of many physicians, particularly Elliotson and Ashburner, the theory of animal magnetism could get no footing in the scientific world, as it had done on the Continent. A succession of experimenters and writters, however, actively pursued the matter; for example, Townsend, Scoresby, and Edwin Lee. When the French magnetier, Lafortaine -a grandion of the poet, according to Ochonseicz-exhibited suggestin experiments in Manchester in 1841, Braid, a doctor of that place, interested himself in the question. He showed, like Paria, that the phenomena exhibited by the person experimented on were of inbactive nature, and were not induced by any magnetic fleid. By carefully frong the eyes on any object a state of sleep was induced, which Benid called "bypnotium"! Braid did not straightway consider the hypeotic state to be identical with mestrerien, but for a time, at least, left the latter in an independent position by the side of hyperchant.

In the freegoing I have followed the phenomena of animal suspection, down to the middle of the last century. The historical development, as I have traced it, begins with the popular opinion that, in the first place, there are human beings who can exercise a personal influence over others, and that, is the second place, peculiar psychical conditions can be called forth by means of certain manipulations. The accentific development of hypothesis now begins. In this we see the relitionship of modern hypothesis to assess magnetism, in

The name was not, however, alogother new, as cleanly Itlain the Carellers had tailed of "hoperscope" and "hypothiat," with reference to magnetic mate. (Max Daucky).

that both are called forth by the influence of one man on another; but nowadays this influence is held to be psychood, and in no way connected either with a tragnetic fluid or the mineral magnetism.

Braid now set to work to investigate the sysrpomatology of hypmosis, and in 1843 published his Mazuraniccy, a treatise on the subject. He was argumented with the catalogue phenomena and certain suggestions, and used hypnomin therapeutically; in particular, he used it to perform paraless surgical operations, but as mesmerism had been made use of in former times. Compared with his earlier works, Braid's later writings show great progress; in them he lays far greater emphasis on the psychiant significance of hypnosis than had been his work. In this connection I may itemion his work. entitled Mags, Witchengi, Award Magnetica, Hyperica, and Electro-Biology, a third edition of which appeared in 1852. In the result we see Benidism, as the state investigated by him is sometimes called, occasionally used for therapeutic purposes, but more particularly for the performance of painless surgical operations. Among those who used bypnetium in surgery, the following deserve to be mentioned:- Loyart, Fentan, and Toswel in London; Joly, Riburd, Kiaro (according to Max Dessoir), Varges, and Herrog. The last named had acquired his knowledge of animal magnetism from Colonel Brace-Bey, of Stockholm, who had long resided in the East. Yet in spite of these individual efforts, and although distinguished men of science like the well-known physiologist Carpenter, as well as Laycock, James Simpson, Mayo, and others, confirmed the farts, hypnotism found no general acceptance either in medicine or in any other branch of science. It remained an inclated phenomenon.

The doctrine of animal magnetism was not, however, entirely forgotten: in lay excite, at least, it retained many permanent adherents. This was particularly the case in lingland, for Carl Scholl tells as that, somewhere about abgs, his attention was drawn to the meeting-places of measurents by hith and notices posted at the strent corners. One Haddock, by name, acquired a certain amount of distinction among English measurests by reason of a book which he wrote on the phonomens of sital magneties. This work was translated into German by Merkel, who, in a preface, advised his readers to send either their autographs or a lock of their hair to Haddock.

who would then by able to put them or support with Emma, the claimopants. Dr. George Banh, also, was a well-known London tragnition. A similar time of affairs obtained on the Continuet. In Paris the doctries of animal magnitism continued to flourish extensively in by circles. Scholl, whose writings have already been mentioned, describes the public services of one of the societies of mesonerism. In Germany also a few individual affairents of the old doctrine were always to be found, and from time to time come magnitum appeared there in public—as, for example, the French magneticer, Laurent, who, with Miss Prodence, the bidy upon whom he operated, created a centain amount of excitement in Wieshaden in a Sec.

In America, meanwhile, around magnetism had gained adherents; New Orleam was, for a long time, its chief central Kiewan has collected a number of historical notes treating of the position of American psychiatry in respect to animal magnetism. In his book on the Freetment of Innantis, which appeared in 1846, Galt, of Virginia, expresses trry suspected views as to the value of animal magnetism in the treatment of mental disease; and Brigham states that in 1846 he experimented on five patients, but without success. Mitchell alog whose reports are more detailed found only one-assemble of the persons reports when the responsive to messenic manipulation. No serious case was cured, though it was found that temperary improvement could be obtained in some nervous states. In 1843, Even, of Columbus, Miss., and others made similar experiments.

A few years later than Braid, Grinsen appeared in North America, and, independently of Braid, obtained like neight The states produced by Grimes were called electro-biological, Among his adherents Dods and Stone must be mentioned. Electro-biology was introduced into Europe by Durling and a French physician narried Denand de Gros. The latter had lived in America, whose he wrote under the pseudonym Pailing. He returned to Europe in 1843.

Bend's discovery was first made known in Bordeaux by Aram, in 1859. Encouraged by Bann and mocked at by others, Aram made some hypnotic experiments, he communicated the results to Besea, in Para. The latter daymed hypnotism before the Analysis Ara Science. It was soon made me of to perform painters operations; Volpran, Follin, and Guérman in particular made experiments. Other physiciam, Demarques.

and Ginust-Tenion, as well as Berend at Berlin, Pinens in Glogan, and Heyfelder in St. Petersburg, showed the slight value of hypnosium for surgery. In consequence of this it found no acceptance in medicine at the time. The especiments of Laurgue in 186g, when he obtained estaloptic phenomenta by closing the eyes, aroused no particular interest. In the following years we only find here and there, especially in time English scientific works, basel notices of hypnosium or measurement, as in Thomas Watson's Lecture (1875), in Tanner's Francis of Medicine (1875), and in Quain's Dictionary of Medicine, in which Bustian wrote on Hypnosis, and arged the need for feether investigation (Felkin).

Meanwhile, Liebeaux, who later removed to Nanoy, had made himself finalities with the phenomena of hypnotism and animal magnetics. The last he endeasoured to refuse, and he became the real founder of the thempeaties of suggestion. His back published in 1866 (Do Second etc.), which is one to day very well worth mading, contains his ideas; it remained

little known, and the action was much laughed at.

Saggration had undestroofly been applied before Livicensity lines, in the waking or well as in the hypothic condition. We find in the histories of instinction many inducations that the followers of televal engageties for properly regarded speech as the followers of important, for manyley. Enhancement and Employer. As Personnel very properly remarks in there is forgonn reference in histories way judgety and theorem of rechel importation. It was however, lichestal who fear unlined suggestion methodolisty. To make use in fragment also that is was through Libbertal in so that we that Cerabelm was induced in term to the study of hypomist suggestion, while though Employed in the attention of many which investigators was called to hyposiss. The lates historical three-hypothesis hypothesis with Libertal That more carrier orders, lawrence, known much that he more fully wereless as masses he doubted.

Independently of Liebeault, Charles Richet came forward in Pana in 1875 to contend for the real examence of hypnosis, which he entired "Someometations provoque." In the year 1878 Charcot began his demonstrations, in which he directed attention to the physical states of hystero-epileptics during topposite; in 1881 Paul Rither published, in his book on La grande Hydrois, many experiments performed on the lines of Charcot. Among the pupils of Charcot I may name, in midition, Timet, Ferst, Gillen de la Tomorie, Bahiraki, Barth, Bourneville, Regeard.

About 1880 many investigators in Germany-particularly Weishold, Optic, and Ruthburn in Contantir, Heidenhum and Berger in Breakas—occupied themsolves with the question; and Rosenbach, moreover, pointed out the psychical character of the phenomena of hyprosis at about the same date. Other contemporary investigators to be mentioned are:—Middies, Benedict, Knienburg, Senator, Adamkiawicz, Borner, Meyesoba, Barmier. The investigation of hyprosis in asimals, published by Carrinsk in 1874, and after him by Paryer, arouned no lasting interest. The inventions of 1886 also also som ceased, although Paryer often pointed out the importance of largerellsm.

Many opinions of early investigations in the field of hypoconius have been relegal to have itions. Of some distincts according a single conclusion has been list standing. Even Charpet total herealized manipulation, it is not be second on a considerate or hypocolium, on account of the attention that the second cong investigation of hypocolium, on account of the attention they does to the notices, even if all their annulations are related. It is much easier to push on a work which is alteredy well advanced than to key the first attention on which the annulations are related. Among the investigation who, it may quantom descript ending graticals, although a greater part or many ad their trades manging of their workers, must be reduced Charges and their trades in any of the place workers, must be reduced Charges and their trades in the will, I am nam, in advanced, then recommended the rest of these of their final attentions where applicated attack and columny on the part of these of their final attacks are applied at a colly impairs into the phenomena of hypocolium, he example, though an only impairs into the phenomena of hypocolium, he afforded in their respect over every his same were apart by the Kancy against of investigation.

The researches of Charcot likewise had stelle effect upon the further pursuit of the impury—as little as Ind the book of Prosper Despine on sommambelium, which appeared in (88a. It is true that in some hospitals investigations were undertaken, particularly by Damonopallier in Pans, by Pittes in Bordeaus, also by Ladams in Geneva, and later by Emoranger in Jena.

These researches were, however, sporadic

Quly when a second medical school in France—that of Nancy—approached the subject did the interest become more general. Professor Bernheim, of Nancy, who, mainst by Dament, and studied the question with Liebeault, and had accepted the latter's views, published a book. Do in Suggestion in, in 1886. He gave in it examples of the curative effects of hyperists, the phenomena of which, he says, are entirely of a psychical nature. Besides which, at Nancy, Pessan's worked at the physiology of hyperism, and Liegeon at the foresist side.

of the systemen. Then followed in France the contest between the scino's of Charon and of Nancy, in which the latter, however, has gained ground more and more, and has at length received just recognition at the hands of the Academy of Medicine, Para, thanks to the contions of Pount. Whereas Charcot, and Heidenham in Borslau, emphasized the importance of the somatic symptoms, the Nancy school and its affacrents held that all the phenomena were caused by suggestion; according to the latter, hyprosia presents no pucely physical changes which are not produced by apposition. As already stated, the importance of the psychical element in hypotoni, particularly in respect to suggestion, continued to gain adherents, and Charcot's views were almost totally superseded-In only a few one instances-for example, Schaffer of Buda-Pestle, Paul Magain of Paris, Micheline Stefanowska in Kussia-do we find views expressed which approximate to the semanic conception of hypnosis part forward by Chargot and Heidenhain. One thing is certain, Charcot never adequately

toosgnized the importance of suggestion.

People began to busy themselves with hypostism in other countries as well as in France, chiefly on the lines of the school of Nancy. It is true that, as has already been mentioned, the study of hypeotism had been begun in various countries to connection with the work of Charcot. As, however, in come-quence of the rather one-sided standpoint of these investigations, the different inquirers failed to find any lasting satisfaction, even the name of Charcot was powerless to establish a facing interest in the study of hypnotism. Only when the school of Names created a sarer basis for hypnotism by a profounder psychological conception could people begin to devote themserves on a larger scale to the dudy of it. Among French investigators I should name A. Voine, Jules Voiste, Bérillon, Deseroe, Luys, College, Ninet, Laloy, Reguant; Parl Farra, Laboilly, Genart. Numerous other experimenters occurred themselves wife the question, and even those who had at first considered the experiments of Charcot to be of higher value later on turned in large numbers to the school of Nancy. Of course, attention was not directed exclusively to medical effections; the psychological and forence aspects of hypotenia were studied as well. Among those investigators who worked at the physiology of hypnoxic I must marrian Pierre Janet. Kibol, and in more recent times Paul Farer and Regulation

On the focusio side we have Minnet, who investigated offences against morality committed on persons in the hypotonic state, and many others to whom I shall refer in the section dealing with the legal aspects of hypotonics. How unisting French law affects the practice of hypotonics has been worked out by Halgan in his graduation thesh, L'Hypotonics devace to

lie; Paris, 1901.

Hypotism found an estrance to many other equatries. In Switzerland it gained sumerous adherents, among whom I may mention Elenfer, Ringier, Boujour, Lienger, but more puricularly Forel, who, as the most determined follower of the Nancy school, enthasoatically supported the theory of hypnotic and non-hypnotic aggression. In Belgiam the entirent psychclogat Deborat, of Liege, smoothed the way for it. Several lawyers, The Bordesn and Maliae, interested themselves in the new science, especially in its forensic aspects; and among physicians may be mentioned Moreau, Velsen, Mans, Crocs; and Speld. Perhaps greater progress was made in Holland, where Stephan's objective treatment of the question threw light upon a subject which might have been obscured by Catter's opposition. Numerous physicians made me of hypnotism in Holland. for curative purposes. Among the Datch pioneers of hypnotimme must recken Renterghem and Beden, of Amsterdien, and de Jong, of The Hague. Of the numerous Dutch physicians who made practical use of hypnotism, I may mention Reeling Brouwer, of The Hague; Breuking, of Scheveningen; Hekma, of Groningen; and Stigter, of Leyden, Other advocates of hypnotism to be named are Deventer and Jelgerena. At the accord Congress of Hypnotists, hold at 1900, Renterghem published a list of Dufeli physicians who practise hypnotism for curative purposes, from which I have extracted some of the therails given above. In Denmark, Sweden, and Norway we find also a series of impainers - Johannessen, Sell, Frankel, Carlien, Schleister, Reserven, Velander, Geijarstam, and 16002 purpoularly Wetterstrand, of Stockholm, who uses hypnotrum therapentically to a very great extent; also Lehmann, of Copeninger, in carried advocate of the paychalogy of logiculling, also in Rustia, where Stonlio, Michaelow, Tolance, Bechteres, Brusolinto, Mayer, Rybakoff, Orlitzky, Brodowski, Reports, Matvool, and Winnermky of Saratoff, are to be mentioned, although the Government have pur many difficulties in the way of studying hypnotists. In Greece and Spain, where

Parido med augustion therapentically many years before Bernheim, hyprotism has gained in importance. E. Bertrin Robio, of Barrelona, has published a comprehensive work statisted Hyprotisms y Suggestion Among Italian investigators may be mentioned Lombross, Bellions, Morselli, Toncli, Ottolonghi, as well as Ottoto del Torso, the editor of Magnetisms e Specifico, Ellero, Cantani, and Ehrenfreund.

In England there exists a scientific society—the Society for Psychical Research which, besides examining certain mystical phenomena, also does rauch to promote the study of hypnomers. The members of this society are all men of high scientific and social wanding, of whom I need only mention Ramsay, Stanley Hall, and the late Professor Singwick. Groney and Prederick Meyers must here be especially mentioned as promoters of the study of hypnosis in the Society for Psychical Research. Before this Hack Take had often called attention to hypnotom in England. He was, however, unable to excite any enduring interest in the matter, nor were Gamgee, who in 1878 reported on his observations of Charcor's experiments, and Whitchead, who in 1885 whose concerning some experiments at Manchester, more successful (Feikin). At the same time, as Feikin remarks, numerous works dealing with hypotelism appeared from time to time in England; as by Gasquet in 1833, by Karl Grosmann in 1888, by You, and especially by Proper, who spoke on hapmonium at the British Medical Association meeting in 1850. Among more recent investigators in England I may incution Lloyd Tuckey, of Lordon, who has made many therapeutic applications of hypnosis on the lines of the Nancy school; as well as Kingsbury, Harr, Vincent, and Coates. Special mention must here be made of Bramwell, who by a series of contributions extending over a number of years, and more particularly by his recent book Hypersoner, has done so much to promote the study and thenapeutic application of hypnosis. In Scotland, Felkin has done much for hypsonium in a small but careful and interesting book on the question; also George Rebertson, who advected the use of hypnosis in the treatment of siental diseases. As Bramwell mentions, Sir Francis Cruise semained about the only writer on hypeotism in Ireland. At all events, in spite of numerous opposents, among whom Norman Kerr and Eumey may be named, hypnotism has thus won citicouship in England. Moreover, at the Birmington moeting of the British Medical

Association in 1850, a committee of physicians was appointed to test hypnotism psychologically physiologically, and therapeutically. This committee, which included among its numbers Hack Tube, Langley, Narcham, Broadless, Kingsbury, and Clouden, presented as report in 1842. In this sepon not only was the reality of hypnotism recognized and its symptoms described, but hypnosis was warmly reconnected for therapeutic purposes, especially for immunis, pain, and remember functional disorders. The results in dipromain were men-

tioned as peculially encouraging.

In other quarters of the globs, especially in America, it had also awakened great interest. Beard had already long ago occupied himself with the question. Unfortunately, his investigations are not known to the extent they deserve. In (58) Reard also intempted, at the International Congress of Passicians to London, to interest European physicians in hypnotism. The results he obtained were the opposite of those he desired, as may be seen from the writings of various eyewanesses, Mortimer Granville, Donkin, and Unichoon Browne, in the British Medical Journal, although the first-comed, Granville, at the International Medical Corgress in London is 1881, had referred to the possibility of hypnotizing the incane. Although Beand's exertions were at first fruitless, at a later period many in America occupied themselves with the prol/cm of hypnosis. Among recent investigators may be maned Funkheiser, Hamilton Osgood, William Lee, Haward, Pope, Gerrish, Fitzgerald, Clark Bell, Hulet, Hammond, Dana, Vermeren, Axtell, Booth. Sidis made special investigations into the psychology of suggestion as a maint of studying personality, and in this was to an extent under the guidance of William James, of the University of Harvard; he published a monograph on the Psychology of Suggestion, but the work is not hased entirely upon observations made upon persons in the hypotic state. In various universities and colleges of the United States the study of hypnotism has been carried on; for example, at Wellesley College, as Whiton Calkins reports. A scientific association, the American Society for Psychical Research, now affiliated to the English Society, has also been formed in the United States. In several of the South American States serious inquirers have turned to the study of hyperotic phenomena; for example, Octavio Maira and David Benavente in Chili; Barreto, Fajando, and Jaguaribe in Bezzil. In Cuba the physicians Villamonga and Disa may be named. Demoglou, of Cairo, also has sendied hyperoic augustion.

As was to be expected, hypercours very soon began to stoose " greater interest in Germany. Although the investigations ncited by the exhibitions of Hansen had left no buting impress, set from time to time individual imprirers, such as -Obersteiner of Vieress, Frankel of Deman, and Motion, had endeavoused to draw attention to hypnotism in Germany by clear and importial reports. Experiments in therapouties had also occasionally been made; for example, by Createfeldt, Wiehe, E. L. Fischer, Berkban. But no general interest was . aroused until 1857, when Odelivered an address on the quettion before the Medical Society of Berlin, in which I netated my own experiences and centure observations I had made at Certainly the address was not at all lavourably reextreet, and two more who were obviously only requainted with Charges's investigation and not with those of the Nancy school, argued me. Emild objected altogether to such a method of engineer being designated medical, and Mendel attacked herenous on account of its manifold dangers. As a natural s consequence in congrenated minimal of hypoxia was engendered, and only gave way when a more objective conception of the question made itself felt. This occurred when Forel, who had been giring instruction in hypnosis in Suitzerland in connection with the Nancy school, insisted on the importance of the inbject, and at the same time especially desourced the manner in which Ewold and Mendel sought so settle the question.

A really stirring arrivity new set in in Germany also. The importance of suggestion for hypnesis was recognosed; and many physicians, following the example of the Nancy school, commenced therapeutic experiments with hypnesis in Germany-Among them may be named Sperling, Norme, Michael, Hess. I must further especially mention Schrenck Notang, who was one of the very first pronounced advocates for the thirapeutical application of hypnesis; also Hissilin and Baierlacher, who discovered the reaction of degeneration, but who infortunitely died sheetly after tenning his attention to hypnesis. Among those who, in Germany, either employed or recommended the thempenional application of suggestion may also be mustioned Gorsal, Schuner, Hint, Ad. Barth, Bragelmann, Hocker, Max Hinch, Scholt, Germany, Stein, Sei Clattel, Stadelmann, Flarcek, Generatz, Delian, Brance, Schitan, Haraberg, Stöström, Steg-

mann. We must also remember Lumenfeld, on account of his various contributions to the shampensical side of hypnosis and kindred questions, as well as for his detailed treatme on hypnotism. I must bere mention several other Beilin physicians who, by their individual investigations, furthered the sherapeutical side of the question, and by so doing were able to illuminuse the broader domain of psychology and psychotherapy—for example, Vogs and Himchiaff. The former, aided by several of his pupils, notably Bradmann, amentially improved the technique of medical hypnothem. Others to be named are Georg Flatas, of Berlin; Georg Warske, of Friedrichs rods; Hilger, of Magdeburg; and Dollers, of Marburg.

We find, literain, a number of physicians in Anstro-Hingary active in the same field. Here Obserteiner continued his cartes investigations, but special mention must be made of Kraffi-Ebing and his pupil Albed Fuchs, who, like Schrunck-Notzing, laid seems on the importance of hypnotic suggestion in the treatment of cases of sexual pervention. I may also mention Freud and Birmer, who recommend a peruliar wiethed of treatment, the fathertic; also Fren.

Schnitzler, F. Müller, Donath, Moning.

Ziemssen, Nothragel, Seeligmüller, Benedikt, Köherlin, Richter, Schulter, Windscheid and others set their faces most decidedly against the therapeutic use of hypnosis. Some emphasized in dangers, while rehers gave prominence to its melessiness. The emery return of the work upon which many of these assumptions were based was soon demonstrated. For example, it was shown by Schrenels Notring that Friedrich, a pupil of Ziemssen's, who had particularly animalworted on the stangers of hypnotism, was harnell "a transgressor against the most elementary demands of those who advocated hypnotherapeutic interference in the treatment of disease."

Parting aside the numerous works which deal esclusively with hypositism, we first this subject discussed in many books chiefly concerned with other themes. I may mention the turious works on nervous and reputal discusses. Hint and Mohins, likewise Gomes and Oppenheines, have insected more or less comprehensive chapters on hyposition in their works. The same is true of many writers on psychiamics, for example, Kraffi-Ebing and Kempelie, both of whem mention the thempentic value of hypnosis in their books. The value of hypnosis when other means hell is admitted by Sommer

though Kirchhoff, in his Pytchiatric, treats hypnosis as being

more a psychological physicineron.

We also find hyperstiess discussed in works dealing specially with nervota discuses; in Muller's Hondows for Newestland there is an excessive chapter by Schrenck-Noning on hyperstle and especially suggestive therapeutics. Boost, also, in his book, Normanium on Newanthbook, deals briefly with treatment by suggestion, which he conditionally allows; as also does Lewenfeld in his book on hysteria and neutrathenia. Hypersties is fully dealt with by Pittes in his work on hysteria and hyperstic treatment, by Binnwanger in his great treatise on the same subject, in which he justly only covers a

portion of psychotherapeurica.

Occasionally we find hypnesis theroughly discussed in other medical works; for example, in Eulenburg and Samuel's comprehensive treatise, Allgrando Therapis, in which the section on psychotherapeatics is minten by Ziehen. The question is similarly treated in Eulenburg's Real Emphasisis, and in the Emphasizationer fateriology, which are supplemental to the former. For these Corval and, later on, Schrenck Nothing have contributed different and detailed criticisms of the most recent works on the subject. In Periodith and Stimming's Handburk der Spenicies Therapis, the section in question has been prepared by Liebermeisten, who writes with reserve on hypnosis, and gives preference to

argrestion applied when the patient is awake.

Other authors worked at the particular subjects which have a relation to hypnothem without laying special stress on its thempeutic value, as we have already seen was the case with many French investigators. As far as Germany is concerned the works of Lilienthal, Rieger, Drucker, Haberle, Loos, and Neumeister must here be named, which inquired into the legal side of the question. Kraft-Ebrig published as extremely detailed experimental study of two cases; Max Dessole compiled a valuable bibliography of modern hypnoxism, with appendix; further, Nusabaum, Noune, Bleufer, Otto Efforts, Hickel, Kocks, Masch, D. Weiss, Sallin, Binder, Dieber, Monwesik, Hebold, Hitting, William Hirsch, Structon and Tromner must be named. A short but useful book on hypnotism was long ago produced by Minds, who rescued from oblivion many little known facts contained in ancient and modern literature.

Here, too, we must specially mention amices works on psychology in which hyperetism is also discussed, such as Wande's Generality der Physiologicies Parchalger, and the same author's Generality der Psychologie; alcomice James's books on psychology alto the new odition of Volkmann's Lebrard der Psychologie by Cornelius, and the works of Paul Carus, Kulpe, Hiefen, Minuterburg, Lispa, and finally Hellmann and Jaha's Psychologie als Generalization-buy's der

Parkeyer

It would be altogether a mortake to fix the therapeutic value of hypnosis in the standard by which it is to be judged, for that would lead to the neglect of other factors; for example, the psychological importance of the subject. As a matter of fart, a series of investigators have recognized the great value of Syruce use, particularly in this direction-above all, Krafft-Ebing, Food, Max Dessoir, and Ribot. In Germany many scientific societies have made valuable contributions to the branch of the subject. Such are the Psychological Society in Munich and the former Society for Experimental Psychology in Berlin, to which we owe a series of muszrkable works by Max Denseir, Bayrian, Helbrald and Bertivogno Later on, Vogt, of Beilin, called special attention to hypnosis as a means of psychological research. By some psychologists-Wands, for example it is denied that Lypnotism is of value in experimental psychology. At the same time Wuedt admits that, like dreaming and learnety, it is a proper object for psychological observation; but its rulue to the psychologist is not equal to its high value to the physician.

I may here beindy meration that considerable space is devoted to hyperotism in many philosophical works, and in such as deal with the history of circulation, but particularly in those treature of occupious and superstition. To the latter

entegory belong the works of Laboures and Hennig.

The theologisms have not been able to leave hyperenism alone altogether, although they sometimes attribute it to the agency of the devil. Among the authors who have dealt with hyperetism from the standpoint of the Chinch, I may name. Fence, Mêric, Finlay, Han, and Cocconier, of whom the last named, though condensing hyperetism as a role on moral grounds, parties its site in a good cause. I may further mention that Robiner, an Evangelical postor, condenses hyperetism from the Christian standpoint over when it proves

an effective therapeutic agent, and Schutz describes it as illegal and objectionable on rational grounds. On the other hand, Ziegler would grant its one to physicians expert in

hypnosis.

The domain of suggestion, though not identical with hypnosis, is utimately and historically connected therewith, Pormerly the two were studied together, but of recent years suggestion has been dealt with separately. It is a matter of common knowledge that treatment by suggestion has been developed from the therapeutical employment of hypnosis. tray here muttion one of the larger treature in which the important part played by suggestion in the causation and cure et disease la disconnel-Les Phinomires de Suggestion et d'Auto-Suggestion (1903), by Lefevon, a Belgian army surgeon. Other inquirers also have investigated the domain of suggestion open from medical considerations. The general oignificance of suggestion for social life as well as for art and science, has been treated in Dir Psychologie for Suggestion (1892), by Schmidkung, assisted by Genter, a physician. Although the book between mystical tendencies, it is replace with saleable suggestions and historical references. In a small work entitled Proposally-Secretary, published in 1894. J. Mark Badein called attention to the difference in the suggestive influence exerted by different persons on children. The edicational value of suggestion in general has been discussed by T. Pelic Thomas, in his book, Le Suggestion, can Milly door l'Edwortien, published in 1805; and the general social importance of suggestion by Botterey. Gothitann has dealt with suggestion by letter, and demonstrated the dangers of character-residing by advertising graphologuts. In 1900, Biret published a back La Surpentiolist, in which the susceptibility of children to non-hypototic suggestion is discussed; the nutbor also families historical data on the gradual differentiation of suggestion from hypostism, and at the same time demonstrates that the classification of personal characteristics, as given by Tisse, Bohoo, and Lepeuge, is limed entirely upon suggestibility. Numerous other investigators have dealt with suggestion and suggestibility from the psychological point of view; among them I may mention Hellrach, who dwells upon the connection subsisting between suggestibility and bysteria. But it is to Lipps that credit is particularly due for having, in a lacid and stimulating discourse, attempted to give a psychological basis to, and a delimitation of the problem of suggestion. I must here again mention the American investigance, floria Sidis, whose work, The Psychology of Suggestion, is directed to the elacidation, not only of hypotone, but more especially of non-hypotic

surrestion. In order to facilitate a general discussion of the most important questions in the domain of hypnotism, a congress met in Paris in August 1889, at which nearly all condined nations, including Gennary, were represented, and at which many important matters were cleared up. In general, it may be said that the views of the Nancy school carried the day. A second congress sect in Paris in 1400. Raymond, Charcot's successor, attempted in his introductory address to separatent the coursess as a reconciliatory meeting of Charrot's school with that of Nancy, and many speakers-Bérillon, Croos, Magein-employized, on the lines of Charcot's teaching, the similarity subsisting between certain phases of hysteria and many of the phenomera of hypnosis. Still, on the whole, the views of the Nancy school prevailed at this congress. More recently many congresses and scientific assemblies have occupied themselves with hypnotism. Unly a few need be mentioned. At the O'ren meeting of the Swiss Medical Association in 1888, Forel delivered an address on the therapenties of suggestion. At the International Congress for Psychiatries, held at Paris in 1889, Ladame spoke of the therapeutic value of suggestion, but was opposed by Benedikt. At the Congress of Russian Physicians in St. Petersburg in 1880, Tokarski and Danillo introduced an interesting discussion in the neurological section. In 1340, Bérillon discussed the thempetics of suggestion at the International Medical Congress in Berlin. At the mosting of the Fertish Medical Association held at Bournemouth in 1801, A. Vostin addressed the Section of Psychiatry on the criminal importance of hypnatic suggestion, and at the International Medical Congress, Mascow, (1857, Elemborn) called attention to the importance of hypnotium and suggestion for medical Sumpendence. At the three International Corpresses for Experimental Psychology, interesting communications on hypnotism were brought forward; the London Congress of 1802 was divided into two sections, one of which was specially devoted to hypnotism, F. Myers being its secretary, and Eeden read

a long paper on the principles of psycho-merapentics. Hypnotism was also discussed at the third International Congress of Psychology, in Munich in 1897, and at the Congress of Psychology hald in Rome in 1925, both hypnotism and suggestion were dealt with. At the Congress of Criminal Anthropology held in Brussels in 1892, hypercosm was disemsed. In 1846, at the International Medical Congress in Rome, Hirt introduced the subject of hypnoxis; Sollier and Benedikt appeared as opponents, and the chief advocates of the value of hypothic therapeutics, besides Hirt, were Hiting and Berillon. In 1897, a Congress of Neurology, Psychiatry, Electrotherapeutics, and Hypnalogy met in Brussels. Taégeois addressed the congress on criminal engastion, Bramwell on the therapeutic value of hypothiam, Castebin on suggestion in everyday life, and Aime on the Value of hypnotic suggestion in the waking state. The question of using hypnotism and suggestion is the treatment of children considered criminals, but in reality psychopathic, was discussed by Jules Voisin and Birillon at the Congress of Critainal Anthropology held at Amsterdam in 1001, and the value of hypnosis and suggestion in relation to the psychology of crowds was outlined in the reports handed in by Jelgerima and Sighiles. At the Congress of the South-Western Association of German Aliconity which was held in Stategart in 1902, a discussion on hypercosts and psycho-therapeurics followed on an address by Franck and a communication by Bezrela, in which Knohl and Hecker took part. Hypnotism was also discussed at the Thirtocoth Courses of French-speaking Allerants and Neurologists in Pao, in 1904.

Under the title of La Smith of Hybrologic of de Psychologic, a scientific society was formed in a Sig, in Paris, for the special cultivation of hyproform; its first president was Dumontpullier, a past now held by Jules Voisin. A similar society has recently been founded in Moscow. The existence of other scientific societies inversated in hyprofism may be briefly mentioned.

Various pairmais are new devoted to hypototism. While in Francis the Revus & Fllypantions, edited by Bénillon, has been published for tourteen years, in Germany a Zattachrift five Hypototisms was founded in 1800, but council to appear on the completion of the tenth volume in 1902. Simultaneously with the demise of the Zattachrift, the Javanii für Potokologie and Nisotviccie began to appear, it is published by Forel and

Oakur Vogt, edited by Brodminn, and treats the domain of hypnoxism from a broad point of view. It unbraces a wider field than the Zeitzeleijt, taking in those special psychological questions which are of interest to the seuro biologist. Certainly a succession of interesting and valuable articles has appeared is these periodicals. There have been, of course, other periodicals devoted to beproxim, but most of them have gone enther after a brief extended. Another French journal, the Angeles de Productrie, must have be mentioned. In Italy we find Magnetisms r Institions a journal edited by Olinto del Toros, which was at the same time the organ of an Imian scientific society occupied with the questions of animal magnetism and hygnosis. Accordes also has produced numerour periodicals dealing with hypnotons, but like many published is Europe, they cannot be accordited with much scientific worth. When founding the Zeitschrift for Hyperticour Source releved to the danger lest the connection between loguesis and psycho-pathology generally be lost sight of. The marrier in which Vogt and Birdion have edited, and continue to edit, their respective German and French journals shows that this assertion is not well grounded.

Hypostizm has, moreover, been frequently made the study of medical syndents; from 1858 to 1890 lectures were delivered about it in Berlin by the late Professor Prepar, and in Freibusgin-Baden by Minnomburg. It was more frequently mentioned in lectures on other subjects, as, for example, by July in his clinical discounter on psychiatrics. But as a rule hypnotism did not maintain a prominent position in university fectures, any more than psychology, psycho-therapeutics, and medical psychology in general. Hypnotism and suggestion were for the most part taught in clasus held independently of the universities. Among lecturers on the subject to Berlin I may mention Hirschlaff, Vogt, Georg Flattin, and J. Grossmenn.

In the winter of agon of I myself gave a series of lectures on psycho-therapeutics in consection with the course passworled by the central committee for post-graduate students; in those locures I dealt with the methods of treatment by hypnoris

and suggestion.

To other countries also lectures on hypnotism have been given at universities, as at Zurich by Forch. In Paris, Regillon has delivered lectures on hypnotons in conjunction with Jennings and Fares. Lebmann, a distinguished psychologist at Copenhages, has in his lactures there, dealt with the psychological aignificance of hypnotism. Joire has fectured on hypnotogy in Lule, and Tokarski in Moscow. In short, we had universal and attenuous endeavours to throw the light of science on hypnotism, and attenut fresh investigators to this

field of impairs.

Much documentary wridence in favour of hypnotism has been collected in Germany. The propelery of utilizing hypnosis in the production of a literary work has been discussed by Frances, who collected and published a number of opinions on the subject. Unfortunately, Frances, to further his object, made my of many highly-esteemed names in the German professional world, among others that of Helmholm, who openly admitted that he had never troubled his head about the matter. At the same time we must not lose agint of the instructive and detailed work which we own to Forel Eulenburg, Kraft-Ebong, and Proper. Another collection of documents, dealing more expectally with the therapeuric side of the supstion, was published by J. Geosmann. This, I am surry to say, omits some names -for crample, Preyer's-but several of the papers commined in a are of great value. In 1909 the Prussian Minister of Education invited the Council of Prussian Physicians to institute an inquiry into the therapentic value of hypnosis. At the same time the presidents of the various governmental districts were requested to report on the extent to which bypnosis was carried on by unqualified persons.

It cannot be denied that hypnosis is bequently practised by laynen, and that, too, is a very unscirnatic manner. I need only point to the public cabibitions of hypnotism which take place from time to time in spite of all prohibitive measures. Advertisements amounting instruction in hypnotism constantly appear in the daily poets, bods at home (Germany) and abroad. There is an American institute which has no-doubtedly, both the greatest offender in this respect, for years past its midespread advertisements have held out to prospective pupils a means of learning the art of hypnotizing, whereby they should be able to influence their fellow-men in woodrous wise. This institute offers its instruction in written and in printed form. But putting on one side this unwinstific treatment of hypnotism, we must not forget that numerous popular, and at the same time excellent, treatment have appeared on the subject, and popular exponence must not be confused with unsciratific

exploitation. Many of the authors of these popular works are accentists of some reputs, as, for immuner, Einler, the author of Zier Psychologie she Hyperia, are easily which appeared in a South German paper; there are many other popularises of hyperisis who could be mentioned, but I need only name such men as May Hirsch, Sjierron, and Newbold of Philadelphia.

Hypnotism has not been without its votation in Increture. In former days animal magnetism formed material for remances. I need only call to mind a short play by Iffand, called Der Magazzonace, or to the writings of Alexandre Dumas and Balenc, the latter an enthusiastic upholder of animal magnetism, as exinted in his story of Unsule Mirones. According to Witkewski, Ben Jonson's counsely, The Magnetic Zady, was produced one hundred years before Mesmer was thought of, and in it a somnambulatic thaircrass played a prominent part. Novelists of a later date have also brought hypnotism into play. This we see in Chatetie's John Mornet. Helet's Albiancies, and Achille's Un Radial. Others to be mentioned are Ephcyce and Valdes, the latter for his La Print de Regred. But without doubt, George du Manrier's Trilly massed most stir. Of German productions of a similar name I may mention Meding's Unfor fronting Willow and Phill's Moderney Tatentony. Hang tells us that Catholic Stempure say been influenced by hypnotism, but according to our authority the works operant seems to have been somewhat incomprehensible. Hypnotism has often been utilized by playwrights; for example, in Santon's Similer, a piece in which Sora's Bernhault appeared. Other plays to be mentioned in this respect are Kure Abel's Der Hypnetiuser and Dr. Fendoroff's cornedy, Die Mypositische Sugrestien, z play produced in allot for a Russian charity, and is which all the doctors connected with the fund appeared. It stands to reason that cancatorists and satisfies have not failed to make my of the homorous side, and containly it would be difficult to find a subject lending stielf more readily to estreature. This fact has kept many a person from studying hyponom. A number of pretty songs depitting hyperitism from a humorous point of view is to be found in Koth's well-known Sens-doub for German Figurians and Scientists.

In art, also, hypnotism has played a certain part. Charact and Richer in their work. Let Observiewer John P.Art, have given illustrations depicting attacks of hysteria, and considering

the close connection between hysteria and byprovis maintained by those authors, it is not surprising to find them attempting to establish a similar connection between art and grand Arthurdone. I may here mention that in the Paris Salor, not long since, a picture was exhibited by Broullet called "Une Lecon clinique à la Salpétrière", and I will take this oppor-tunity of calling to mind that when memerism flourished, it was made mer of in Eliminative art, but more particularly for satirical purposes. K. F. H. Marx mentions in his treatise on the connection of illustrative art with the art of bealing, a work by Chodowiecki entitled, A Magnetic Manjaclation, and a natirical sketch of Mesmer's magnetism by Fr. Sergant. Of a somewhat different pature is the connection between hypnosis and art, as recently discussed by Rochas and Otto Schulue, with whom Schrenel Nothing and Lotwenfeld agree to some eatent. The three last-mentioned asquirers, writing in relatence to the sabilitions given by the "sleep-dancer" Magdeleine, give prominence to the question as to how far the power of expressing the emotions during hypnosis may be utilized for artistic purposes.

Certainly all the seferences to hypnotism and the numerous works on it, mentioned in the last paragraph, demonstrate the general nature of the interest which has been brought to bear on the question; and it may not be superfluous to draw attention to the fact that hypnotism has not remained without influence on our daily speech. When we say that a min scena "hypnotized," we mean that his whole interest is so concentrated on one point that he neglects every other important question. Similarly we employ the word "suggestion" to describe the means by which one person may exercise undur-

influence over another.

We thus see how hypotism has grined in significance, how it has gradually developed itself out of animal magnetism, and what an important branch of modern science it has become. Finally, it would be an emission on my part if I did not mention that animal magnetism, as distinct from hypotism, has retained some of its adherents in the scientific world— Ochorowica, Myers, and Richet. Naturally, I ignore the numerous uncritical and unarientific generals who express a belief in this magnetism.

## CHAPTER II.

## GENERAL COMMUNICATIONS.

In order to give the scader on like of the phenomena of hypnotium, it will be best, first of all, to describe a few experiments. The phenomena will in this way be made more conquebessible than by mema of any number of definitions.

Find August the to test himself on a chair, and give him a larger to hardy the agent him to test himself on a chair, and give him a larger to hardy talling her to lack it is facely. After three country his specific fairs he tries to talk to open ion eyes, which are fair closed; his hand, which up till may into graped the homes, thepe soon his hard. It moves to up question so to have he fairs, he replies that he is the difference him it is impossible for him in open his eyes. (He makes will attend him it is impossible for him in open his eyes. (He makes has effects to upon them.) I sow may be him, "Your hands has bank fare to purchase you cannot providely sate them." (He takes him hands have been about a larger than it is not talk to make the integer one described him to be please. I make the triple one of describ I fair you be described him in the same state in larger agent his coor, which expect at such, and he is the same state in larger agent his coor, which expect all such, and he is the same state in larger agent his coor, which expect all such, and he is the same state in larger agent his coor, which expect all such, and he is the same state in larger agent his coor, which expect all such, and he is the same state in larger and to him.

The only striking thing is, therefore, that he could not open his eyes, and that he felt a contain degree of fatigue.

Japan Kenerowski. This is a reason of Mighless. When she has sented herself on a clusted where reports before her; I must my hands and payer those slew recards, with the pulses towards her, from the tops of the head realises the pix of the stowards. I held my interless that they may not truck here, at a distance of from two to four continuous. As some on my hinds come to the bound past of the stoke I carry them in a wide pages with antiquend must up over the indiget's head. I thus sepont nearly the arms more west in that is, places from some downwards, close to the holy, and continue this for almost the missage. At the wall of this time the subject is drive with closed eyes, hourship decay and pencetidly. What I sak her is ruse, her street, the rules them only dightly; they then full shown upon heavily. When I sill, her have the been, and explaint the in cere tired. I halled has no open her eyes. (She makes models attempts to upon them.) New I lift up but tight usual it remains to the air com after I have being a Transmitted to drop for one. She describ. I fifth it upole, and again it remains in the air; upon which I property has to they has men, distanton or the same time that the connect do it. She now makes your efforts to sloop has arm, but it remains in the nin. The tame thing happens will the other term; when I famile her the is unable to deep it. She cannot pronounce her own same directly I have assured her she is death. She only makes reverseeds with her month, eitherst producing any assurt. I tell her now the can speak. She sprake at once. Lury in her, "You have prove." The seems thirty her head to them she being no month. I water her by posses them tested, to them the service of her looly, turning the look of my hand covards hard, some the service, and can control her monimistic as below the ex-

We see here, then, that not only are the eyes closed during byposess, but that all sorts of different reoversents become impossible to the subject when I forbid them.

Third Experiment. Here is a long of sinteen, whom I have hypnolited arrival flams. I request from to look one straight in the eyes. After he has done this for mose flam I take most by the hand and three him slong with our. Then I let go, her our eyes remain fined on each other's. Then I let go, be our eyes remain fined on each other's. Then I let us a little property of the letter the same. I make here embedded by a gestion that he must kneed shown. (He does to.) He time to time, but then not embedded him and the same and the fines hy a movement of the head. Family, I come to look at him; the church is all once brighten.

We see here, then, a young man whose movements take the character of instation, and trhose eyes at the same time are wide open and fixed upon mine.

Frank Experiment.- Mr. N., help-one-years sail, sensy binately on a chain. I till him he must my to simp. "Think of nothing has that you are to pu to sleep." After some sprouds Locatione: "Now your epoids - beginning to close; your eyes tre growing more and more hitigard ; the last natives more and more, and get gradually closes. You feel theed all over 1 year new grate shops year legs grow third; a feeling of bonds note and the desire for sleep lake paracount of your while holy. Your eyes close; your band feels duller; your thoughts grow much and more nonfined. Now you can so imper traint; now your excisin are closed. Single." What the eyelble have glound I ask him of two cas open them., iffer tries to do my limit they are two lessey.) I truse his left arm in the pire (If separate in the car, and parmet he brought cours in spine of all his efform.) Luth him if he is aftern. "Yes." "Four adequi" "Yes." "Do you hear the content?" "Yes." "It's you hear the content?" "Emission. Upon that I take up a black child and just it less the hand. "You feel this dog quite plainly?" "Qu'te plainly." "Now you can upon your sport. You will use the day already. Then you t will go in storp updit, and min wake all I tell you. The open his sym, looks at the imagazing the and strokes it.) I like the while out of his hand and lay it me the fines. (He streets up and resolve out for it.) Although he is in my norm, when I sell him he is in the Zoological Guidans he believes it, and sees lives, the water, the children playing, ment wo less.

We have here a rase in which a man is thrown into the hypotic state by my according in his mind an image of the sleep. This manner of hypoticing was introduced by the Nancy school of investigators, and may be termed the method of Nancy. It is not only possible in his case to powers the most various mosements by a mere prohibition, but I can also control his sense-purceptions. On my assurance he thinks he hears a canary, or hears music. He takes a black cloth for a dog, and believes himself to be in the Zoological Gardens when he is in the your.

But the following phenomenon is utill more striking. X. hears all that I say to him, and allows himself to be influenced by me in every way. Yet two other men, A. and B., who are present, appear not to be observed by the hypnotic at all. A. hits up the arm of the subject; the arm falls loosely down, and when A. dening the arm to remain in the air the subject takes no nonce. He obeys my orders only, and is an explored with me subject to wake him I more call to him: "Wake up!" He wakes up at ones, but only remembers going to sleep; of what happened during the sleep he knows nothing.

FORE Experience. The senses would be the chair is thirty years of age. She is highly bystosical. Extractly the status intendig at any givening object, and I at the most fine weak to her as I shall in X. in the last experiment, the falls into a kind of strep. Her eyes close, and the sta-there is an apparently positive condition. When called upon to open her uyes, the attempts to, but council so long as I more her it is impossible for her so to do. I suggest that the it on bound ship. (The suggestion takes effect and she immediately lock unwell; she declares the is sen sick ) I let bee ut still the a few notonite, when the unblesdy language and amount that his broken ont. She can only be extend with difficulty. Her bearing it very might, and every expression of her features betchmin depail of the fine. It is not quantitate to explain how the come by this idea, in nothing leading to it was said to her. You will offered that although the patient has handly perceived from a state of abject from her face more promper a look of contournest; the legies to lough, and when adoed the cause of her billarity, captains that a transcar has just passed, and it was so know to see as eleganly freuent gratheren southle in the mid. His may thing but easy so how the periors from more suggestive influence, and it first cout me much time and trouble to being her lote a state of quiet, and apparently dresentess, sleep. I now ask her to make up, but the declares that she is troubly fired and does not want to water up yet. Further committe affirmed to her lead to her opening her-eyes, at first partially, their completely. She was tried that an arrating the model for question of a substitute of the superior of tries of the control and noting the superior of tries of tries and the superior of tries of tries and the state of the control of the superior of tries of the control of the superior of tries of the control of the superior of the s complains that her head transless her.

We have here a case of hypnosis in which acto-engention plays an important part. It is true that the woman resembles X of the previous experiment in that she can be inflammed by suggestion; but left to henself, even for only a short time, auto-suggestion exerts itself and produces the scenes we have witnessed. Also, it is to be noticed, that the woman cannot be so speedly and surely awakened as in the case of X. Further, on suking, the woman does not fact quite well, and it takes considerable trouble to effect the phenomena set up by hypnosis.

I interrupt here for a time the description of the experiments; I shall describe others in the course of this work, and shall occasionally symme to those abready depicted. To sum up, jo all these experiments, however different they might be, the voluntary movements were always included, that in the last two cases hallocardons of the senses could be induced, and that it was possible for me in all cases to converte with the subject, and we could understand each other. I wished to bring forward these examples in order that the scales reight understand to a certain ratent, in spite of the absence of living subjects, what different states are included in the idea of hymonic—bow those states are included in the idea of hymonic—bow those states are induced and how terminated. The experiments described above are typical; they can be reproduced by any one who knows how to experiment correctly.

At the conclusion of these experiments I add a short terminology, which, however, is by no means complete, as some particular ideas can only be made clear in the further course of the work.

By Ayyasair I mum the state into which the subjects were

thrown during the experiments described above.

Hypertries is not, as Braid defined it, the name of the state itself, but of the whole stience which deals with the phenomena of this state.

A person in the hypnotic state is called a Appendi, or subject.

A Appendix is a man who Expression for scientific purposes.

A Appendix is a man who makes hypnotism a profession.

Hypersigners is the technical term for the act of inducing hypersis. Hypersigns is the means employed. Hypersign, a term frequently used, only leads to confusion. It is derived from frequently—and is often used for "sleep-producing." Hypersign is derived from hypersis.

The different commands which are given to the subjects in the experiments described, the prompting and personance, are called auggention. I shall use the phrase "so suggest" for the giving of these hiera and percepturgs. If the suggestion takes effect it is said, from the point of view of hypnotism, that the

subject is under the influence of suggestion.

As is often the case in other lemethes of science, the terminology of hypnotism is very defective. Preyes pointed this out long ago. Many terms, such as punchypnotic are hybrids, and have been justly condensed. The second Congress of Hypnotism, with in Paris in 1900, appointed a rommittee to device 2 sound terminology. Cuker Vogt was a member. The work of the committee does not appear to have been overstantful, for the Vogt tells are that although two years have clapsed since its construction he has failed to hear ampliing of it.

There are several methods of inducing hypnom, as can be gathered from the above examples. In order to make 4 systematic curvey, we divide these methods into two groups—

the mental and the physical.

The mental methods induce hypnosis by giving a particular direction to the subject's imagination; this is done either by concentrating the attention on an substany point (Beard), or by coming an image of the hypnetic state in a patient's mind. The latter is most easily done by spench, as we have seen in the fourth of the extension given above. This process descrees particular attention, as by the use of it applicates accompanying phenomina are more sarely avoided. As a matter of course, the methods are diabily modified to suit special cases, because individual character plays an incomparably larger part in mental states than in ordinary physicalgical investigations. It is, of course, quite possible to call up the heage of the hyperctic state, and thereby induce hypercia by other means than speech; upon this fact depends the influence of initiation. The hyprotic state is occasionally induced by the mere night of others in that countries, as well in by speech. The recollection of uniter hypnosis has the same effect; upon this fact depends the induction of hyproxis by means of letters or by the telephone (Lifgmin).

In many instances the best sessits are obtained by taking the patient by surprise (Sperling, Forel, Redes, Renterghem). Vogt profess a mentod which he terms fractional hypotosis, This counts in the rapid repetition of experiments, allowing long the putient abore internals in which to relate his experiences and feelings, and thereby erabling the experimenter to modify his procedure if necessary. This method is said to have goeatly increased the roll of someamhning. Lawernield also has developed a particular method of his own. The period to he hyprotuced is first of all sequested to keep on country from 1 to 100, slowly and gently. Leavenield then proceeds to surbal suggestion on the lines of the Narry school, but, as a tule precedes this by a brief fination of the gaze. He does not straightway suggest the symptoms of latigue as extraced by the eyes, but eather attempts to bring about a condition of rest and tordrams.

It is contain that these mental influences play a large part at hypothegeneous. It is equally more than they suffice in many taxes to produce bypoous, particularly when the parters concerned bus already been hypototised. Many eyes consider the mental farter as indispensable to hypness; they held the opinion that all the other unabods mentioned below only secceed when they are of a kind to rall up the picture of hyperosis. Yet the other point of view has many adherents, a tact which any easily be overlooked nowadays. Croop, the must decided exponent of the view that every case of hypotasis in not necessarily the result of suggestion, supports this contention on the corroborative opinions of many other investigators, moong whom may be mentioned Charcot, Richer, Pitres, Borras, Sancher Hurpero, Marot, Asam, A. Volste, Beautis, Bromand, Lajoir, David, and others.

Faris farmerly made use of a monthly method to obtain hypnosis. After ; he had attended the attention of the voltect as much as passible to relied out meldinely, "Danson t" ("Susp !"). Iddinant substraintly developed and energiated this process; Bereleies made it more surveinally ACCOUNT.

Here also belongs unto-bypnesis, et self-bypotesis. In this the idea of hypnosis is not aroused by another person (betarehypnoso), but the subject generates the image himself, either roluntarily or involuntarily. Just as the wil is otherwise able to produce particular thoughts, so it can allow the idea of ligransis to become so powerful that finally hypnesis is induced; this is, however, tase. Hypnosis generally taken

place in consequence of some incident by means of which the idea of hypoton is induced; this often happens when the subject has been frequently hypotitized. Certainly it is not always possible to make a sharp distinction between auto-figuration and incitro-hypotolis. It is possible that some states of sleep which are governily comidered pathological, belong to auto hypotols.

I will now speak of the physical means, which for a long time were the only ones used. They consist of certain stimuli of sight, hearing, and touch. Taste and smell (Binet, Féré) have racely been tried, and have generally given negative

results.

The best known is the so-called method of Bright, in which hypnosis is caused by a fixed gaze at some object or other. It is of little consequence whether the object is bright or not (Gigor-Suned, Durand de Gros). Later, Braid gave up placing the object to close as to cause convergence. It is considered arisantageous to hold the object so high that the cyclids are strained as noth as possible in keeping the eyes open. Instead of a lifeless object, the experimenter can make use of his finger for the purpose, or, as the professional magnetizers poster to do, of his eye (du Potet).

Lays proposed the use of a aspidly revelving mirror, in such to produce speedy and entreme latigue of the eye. Lemoint, John, and where have potential out that Lays's method enables us in hypototic mann hysterical and mentally afficied patients, in whom hypotonic cannot eitherwise be induced. The original apparatus designed by Lays has alone been subjected to many much leminus, more especially at the hards of Berillon and Pau de Saint-Marin. Berillon in this brothous on the Taycho-Thysiological Institute of Paris that he has emblated various other instruments designed to the purpose of inducing hyposoms, such as that of Ch. Verding abox, Astron. magnetises hope and Guille's Carper informed. Bellimmarine introduced a higher modification by minus of which night and hearing qualit be stimulated simultaneously.

Jast the same effect can be produced by hearing as by sight; for the the ticking of a statch is preferred (Weinhold, Heidershain). Among uncivilised races particular increments are used to produce analogous states; for example, the sound of a range dram among the Lapps; among other races the monotony of uniform thythin in song (Bastian). Instead of these continuous, monotonous, weak stimulations of the senses, we also see sudden and violent ones made use of; for example, in the Salpetniere, the field of Charcot's work, the

loud noise of a gong or a sudden say of the Drunmond light. However, it is more than doubtful whether these sudden strong physical stimuli, without any mental effort, can induce true hypnesis. Perhaps we have here to do with states in which paralysis from fright is intermixed with hypnesis; at least, subjects thus hypnesised often was an expression of fear (Richer). The effect can also be produced through the sense of locch, even by a gentle stroking of the skin, or by pressure upon it. We know that Colves was acquainted with this latter fact. Some larve also sought to induce hypnesis by the stimulus of heat—a.g., warm plates of useful (Berger).

I here mention in particular the no called manneric, meamericing, or magnetic passes, upon which Richet sen great value. I have already shown and described above, in the second experiment, how they are made. It is not certain whether the stimulation of temperature, as Heidenhain and Berger suppose, or the slight nuttion of the air, or the mental influence, is the efficient agent in this case. I mysuif consider it most likely that the various agencies combine, but that the mental factor is the most important. It is not necessary to assume the existence of any peculiar force, such as the magnetic fluid of the measurest.

I may have mention that the mentiod of in-called "measure pensas" may not used by Menting; it is true that he endorconed to influence by 2000h, but these possion, monotonous, long-continued prairs when I have described above were unknown to him.

Pieres maintains that certain portions of the body are particularly sensitive to stimulation of the skin. The sews hypergraes described by him sometimes exist only on one side of the body, sometimes on both. Stimuli applied to them are said to produce hyperosis in certain persons, as is indeed maintained of other parts. Among time parts of the body the crown of the head, the root of the nose, the elbows and the thumbs are mentioned. Crosq of Brosont, is in agreement with Piters as to the "cones"; but he says be has found other spots which vary with the individual. Crosq thinks that this enables him to eliminate "neggestion."

According to Chamberd and Labords a positio unitable of the skin of the neck induces bypensis. It mostly have seen many persons who animalized that they become hypothesis only when I treated their furbrads. It is alone mated that touches on the forchest induce a peculiar along condition in many persons (Partinia, Science). An Englishman among Carmin ampricant by assume along tracking of the inviteral (Standber). I also know some persons who, in order to go to simp more sarily, came other parts of the body to be graftly simulated—the head, or role of the test, he example. Entrifuse manufacts that persons on the correctal weather incheon hypositis. But among other persons are the persons to another incheon hypositis. But among the main matter; this star, of course, only a care of discovering also the main matter; this star, of course, only a care of discovering the which slarp imparts and there is a Berrong, communing on Boyla statement, has very properly pointed out that there enables as a question of hyposin in the case, which he explains as I have done. Petrines are made the ovarious in the hyposing provide course.

Finally, I meetion the action of the electric battery, shape influence, according to Weinhold, has the same effect as measured phases; but Weinhold, however, does not consider that mental influences are in this hase excluded. Rulenburg obtained a lethange condition by governing the head; but the person experimental on had already had attacks of lethangs. More recently Harmon Low states that he has seen hypnoxis induced by the Reinigen toys. But we are justified in assuming that in all these cases in which hypnoxis is supposed to lare here caused by the reams just mentioned, the hypnoxis has only come as because the subject believed that the means employed induced hypnoxis. His often men electricity in this way, but it is at the same time perfectly certain that it is not the electricity, but this subjects belief in its effect, that produces the hypnoxis.

To conclude, I further mention stimulations of the suscellar sense, such as the cradle-recking used to need fillly children to sleep. I have on one side the suscellar as to wiscour hypnous can be attained by the suscens. Similar states are said to be produced among uncertained people by sinters whilling or denoting movements: the movements are, however, accompanied by sense and other mental excitations. The best known are the Austronam, in Algiers (Figure, Best, Delphin). "They carry on these beniness cheely in the Algerian town of Construction. They are able by means of decing and singing to throw themselves into a state of centraly difficult to describe, in which their bodies sever to be intermible even to severe wounds. They are postered out into their leads, eyes, neeks, and breasts, without impring those select (Rielwald). The target thing is related of the Boddhist convents in Thibet (Helbarld, Gabriel Hue). It

has often been pointed on that the attentioners singing and uniform whiching movements of the dervishes induce byposing in the performers. I have, however, marely often establish the harding and doning dervishes at Calm and Constantinople without being able to detect my indication of hypnoria.

I have huberto cole spokes of semi-atomic mixing the physical methods. But it must also be mentioned that the alterace of these stimule is likewes specified as an expedient for hypototigenesis. Jendrianik, of Enda-Peath, expresses the opinion that fixed attention is only effective became it causes fatigue of the serves of eight, and consequently produces insensibility to stimulation. Stringell observed a rate in which a person fell taken immediately on the crasmion of sementimulation. A case of Baller's, in which sleep and inggetaitility were induced by closing the eyes and ecopong the cars, probably belongs to the dumain of hypnosis induced by suggestion; and I think that the same is true of the method described by Hammilerg in Paris, in 1900, by means of which hyperosis is supposed to be induced withour suggestion being called into play. Hartenberg lets the patient by comfortably seated, and then applies one electrole to his forehead and the other to his chest. The latedic renest is then started, but without including the patient in the circuit. The subject is then told to take deep impositions, and at the same time to concentrate his whole attention on his locating; as soon in he begins to blink the experimenter closes his eyelids. All these details of the procedure-the enforced rest, relaxation of the mustles, the closing of the even, the monotonges tapping of the induction hammer, but more particularly the deep impositions are intended to induce hypothic sleep without the aid of suggestion. As far as the deep impirations are concerned. Hartenberg considers that they set up a certain amount of hyperomia of the thoraric sizona with concomment cerebral anismits, which latter promotes the orast of sleep. Although Hanculery ascids using the woods sleep and | hypotosis, the action of suggestion is not excluded from his procedure, as will be seen from the considerations given below.

The consideration of hyprogenetic expedients into psychical and physical is merely theoretical (Forel, Levillain), and that for two reasons. In the first place, we mannot regard body and mind as two factors which are independent of one another. Sense-timeli, which affect the body, nearly always courties a certain influence on the mind; the mind, on the other hand, can not upon nothing that has not previously extered it by means of the organs of sense. In the second piace, in practice several hyperosignatic processes are used at the same time. This will become perfectly clear if the hyperoxized person is watched; let him be told that he must concentrate his whole attention on the idea of sleep, and he will then, in order to obey the command, look steadily at some point, or at once that his eyes, in order as much as possible to prevent distraction of thought.

This Bershein occasionally must fined intention in addition to the montal methods. Besid, again, who made use of function almost entirely, accordinged a particular mental activity also recovery. This is so he particularly review, because young people assessing to insert that they are using the method of Build when they tell the university to both steadily at american. In reality, Braid toroidered a steady attention as well as a straig gazz indepensable of hypermit were in he attended; the independent think these transity of the three his way looking at, and term for after himself to be directed from it. According to braid, one can hypermit were in the dark.

But even theoretically we cannot always keep these things apart. Closing of the eyer, with perhaps slight persons upon

thrus, often leads, as Laudgue showed, to hypnotic states. How these come about, whether through the cessation of the sense-stimulation or through the idea of sleep, which the 2 closing of the eyes certainly easily calls up, carried be decided. After these details, the much discussed and disputed question must be answered, whether a person can be hypothirml without his answiedge; whether any one can be thrown with the flyprocie state merely by some atmain, without these arouning an image of the hypnous. For a long time such an occurrence was held to be possible, until the Nancy school demonstrated an important source of creor-wa, the possibility that suggestion may be used quite inadventently. At all cours I have of no multi-curiorationted case in takich consestimaletion but produced hypneti by a parely physiological action. Most people upon whom such experiments are made know that an attempt in being made to hypnotize them; they have been abrudy hypotolised, and the stimili arouse conscious or unconscious mental images of the hypnosis; or they have seen the same experiments with others, or have board of them. Even when

this is not the case, the objection raised by Bernheim and Forei remains to be considered—that the sense-stimuli induce a feeling of farigue, and through this induce the hyproxis.

Which of the above methods, or which contribution of them is the best for practical use, is a question the amover to which cannot readily he supplied. When we find that Richet thinks he can throw nearly everybody into the hypeotic state by means of memoric passes, that Libboards, Bernbeim, and Forel hypnotice nearly all their putients by the Nancy process, Vogt by his fractional method, and that Braid hypnotized ten out of fourteen by means of fixation, we see that different methods bring about nearly identical tesults. From this je follows that the success or failure of an experiment does not depend solely on the external influences which may be brought experimented on are of far greater importance, and consequently in such individual case that method should be selected which is most suited to the mental condition of the subject, for stenc persons appear refractory to one method while another succeeds. I have found persons insusceptible by the use of fixed attention, or to the method of Nancy, while I obtained results by meameric passes. Evidently this proves nothing against mental action, for many persons believe they can only be influenced by some particular process. On the other hand, I have seen that intense fixiny of gaze sometimes induces hypotosis when other riethods are useless, perhaps because the subjective expectation of the hypnosis is sooner aroused by the long, intense stare than by verbal orders.

Chambard cockors chloroform, ether, etc., among hypnosigenic agents. Certainly many phenomens analogous to
those of hypotosis have been observed in the sleep induced by
these agents; but F. Myers, however, considers it better to
distinguish the conditions than produced from hyproxis.
Attempts have recently been made, more particularly by
Wetterstrand and Schrenck-Nothing, to study these phenoment. They conclude that by chemical substances like
eliforoform, susephine, has chock, hyproxis can be attained in
persons who are insemitive to other methods. Farez advocates
the use of sommoform—a micrare of ethyl chloride, methyl
chloride, and methyl bromide—for the purpose of inducing
marcoxis, during which suggestion may be med. Bernard,
Feuillade, and Wissemsky report good results from the use

of sownoform. It would, however, he necessary to distinguish between cases in which deep sleep is first obtained by the case of drags, and hypnosis from this condition, as Coste de Lagraro adviser, and those cases in which the hypnotic phenomens are primary. I have myself often produced hypnotic phenomens with post-hypnotic suggestions by the use of chloral hydrate.

Stall has given detailed accounts of the connection between drugs and suggestion as used by moretain's peoples. It is not my intention bets to deal with the part played by engreeness in the thempeutic action of deeps. but I must restrictly effer to the hallociations and continues resculting hyperein which are am up by contain repetable substances. Exell, in the promote of his dispute with Directment, has proved conclusively that each regetable substances do not necessarily came a stale of injudentian, but frequently induce a condition arounding hypnoxis by an action which pan only be described as parely suggestine. Stolf a authority, the bottoma Sellin, teld him, amongst other drings, that when he smaked Indian herep in quintilies not employed by the attires, he shi not experience one tonic effects. On the other hand, a part of a pape filled with himse launialdy produced and effects on the fluctume, driving those at those to distriction. Stall gives me area more constraint proof of his constantion; "Soling tells pur that when the supply of flamp runs short the Deshmen smake the drag of eligibates and attribute, schutteres to which even Directioners will knowly more a book strice; and yet the medien para through the same phases of attraction as when seeking herep. My felend Schint is therefore againly convinced with our that imagention, plays the chief past in producing the spurposes mettioned allow, see that tradition and a greety untripation of orjecting the heary are the active factors in salaring the hypnosis." But the question will erroring any he partition in releasing to bypasses off these cases in which we find tiske appropriate propagation by the phenomena analysis of with to hypersis? Somewhat intalogues in the intileurs assumed by Schine and Stoff, are their come in which patients who no about to be chlorolomust full sviery. before they have hardly inspired our lough of the anisabeter.

According to Londowy, Franci, and Remeiler, the cargust also has a hypothesia attime; but my own framedom expressed in this direction has been disposed to second. Remeiler, any motion, opines that the magnet is becausely entered by magnetize to express the data, for express if as a thoroughly related implement when and is the ampact. Promiting to time new members of approximate hierarchy in which among the industries of hypothesis in some error. Many of more neithered magnetisms have been already designed in the older Remeiler of attention of second modern discountries were well haven more from a best return of attent respection, a tonly of which trackes in the testing of the second modern discountries were well haven more from a best return of the second modern discountries were well haven more from a best return of the form of the second of hypothesis in this, then present the hand close together, etc., a medical other attell by the momental of former close together, etc., a medical other attell by the momental of former close together, etc., a medical other attell by the momental of former

mull were treed out the magnet !

The waking! from hypnosis (dehypnotoation) can also occur in two ways-through immediate action on the imagination, or through sense-stimulation. It is nearly always possible to put an end to the hyperosis by mental means—that is, by the command to wake up at once, or to wake up at a purticular signal. It is hardly over necessary to one other owner, such as forcibly opening the eyes, fanning, sprinkling with mater. excitation by means of the familie current, local rath, etc. Just as the meamering passes induce byrness, so the demeanwriting passes-as I med them in the second experiment described above—came it to disappear. Even if the sool current of air, which is nearly always thereby generated, expedites the awakening, the better of the sobject that he must make is the most important factor in the process. Other processes which have been given, and which were supposed to induce awakening by physical means, such as bringing charcoal near the patient, have only a mental effect, as they are understood as a command to awake. In rare cases these artificial means of awakening do not succeed quickly: a feeling of fatigue then continues, as we occasionally experience when stating out of a natural sleep. After deep and long hypnoxis a temporary state of decertiness often supervenes, in which certain hypnotic phenomena continue. The latter condition, however, occurs exclusively, or almost exclusively, in the case.

of hydrened patients (cf. p. 37).

If the agrakening is not brought about by artificial means, persons in a light hyperotic state such as is described in the first two experiences, habitually sake of their own account after a few minutes, or ever seconds; the expensitly happens when the continuance of the state has not been expensity reduced. Some people wate directly the expension states have them, as they then no longer think themselves under his inducace. Others make of their own around even out of deep bypressa if they hear an unexpected and load noise, or have exciting drams. Thus, I once saw a grown-up person make

I I shall affects throughout to the teams enling, authorize, and the scaling state. They have not jet liver improveded by any letter expression. It about mult, however, be forgotten that by most in an invariably a state of these. Consequently, when I speak of a person scaling from hypothese, it must be endemoned that I speak of a person wasting from hypothese, it must be endemoned that I small that a said has been been being it is a state in which a possibly resonance person was multiple to person extrator actions.

herself by screaming, because in the hypertic state she had believed herself to be a little child, and in that character had began to cry. The awakening which comes about without any apparent cause is remarkable (awareness openings). The same thing is sometimes observed as natural along especially at the beganning; O. Rosenhach traces it to increase of the reflexes. Generally, however, the deep hyproses continue for some time when they are not are ficially terminated. Some-

times many hours pass before the subject waker,

The old memorrats (de Poter, Labortaine) describe as a rare occurrence in hypnotic experiments a state of leahargy in which artificial awakening was impossible. After some time there was a spontaneous awakening, and no evil consequences were to be observed. Goormonpee described lately hav a person had remained three days in hypnosis, nobody being able to wake him. These incidents have only been observed among hysterical subjects. Again, many of these cases have acthing whatever to do with bypossis-are more probably instances of a state of lethargy. One thing is certain t there can be no question of hypnosis when entytoot of any kind and all possibility of suggestion are wanting. Even a lethangic state occurring in a person being hypnotized must be held as something quite distinct from hypnosis. If we wish to make a rational comparison between two conditions we must consides the similarity of the symptoms they present, not the nature of the cause which has produced them.

Who is hypotherable? In order to settle this special out hypothe experiments, Orborowicz has invented a special instrument—the hypotheope; it is an iron magnet in the form of a ring, which the person to be tested yets on his finger. Hypotherable persons are supposed to experience certain sensations in the skin or twitchings of the muscles, while with the insusceptible nothing of the kind takes place. The researches of other investigators have not confirmed this (Oberteiner, Generatin, Gresset, Boltey). Other signs which are supposed to indicate susceptibility so hypothem I comider investsworthy.

Neither neuraethesia nor pallor, mether hysteria nor general feebleness of health, produce a disposition to hypnosis. Our ordinary hysteria, with its variable characteristics of headache and the feeling of a lump in the throat (globus), combined

with the general hysterical douts to be interesting and to esuggerate the sufferings endered, produces, according to not repenence and that of others, no special disposition to hypnosis. Certainly Charcot held that hysteriz predisposed a uniferes from that malady to hyperotic influence, and stone more recent investigators (Hirschlaff, Goupetta) have expresent a similar opinion with respect to the deeper hypnoxic state. I consider such opinions troomson. The mistaken motion that hyperical or nervous putients are particularly surceptible to hypnoceus souths from the fact that ment physicians case experimented with them only, besides which it is very case to discover in all persons comething which may be explained as a hysterical symptom if we only try to do so. This reminds one of the hereditary thint which we so carriy detect in beatly every one. If, however, we consider every one who submits himself to a hypnotic experiment to be "nervous" (Marand), there, naturally, only persons persons can be get into the hypnotic state. In reality, as Sperling has rightly pointed out, if we are to take a puthological condition of the organism as a moreously condition for hyperesis, we shall be obliged to conclude that everybody has a mental twist-is not quite right in the head. For the uni, the old meanstress (Brandis, Lichteustielt, Wirth, and others) maintained that a healthy individual could not be meamerized. In opposition to the assumption that personal weakness is a psychoposing factor, I may mersion that Hanson always professed muscular persons for his experiments, and I have myself bypactined many muscular individuals, in some instances men of athletic havid.

With regard to mental aptitudes, Forel believes that every mentally healthy human being is hypnotitable. In Lisbeault's opinion heredity plays a great part in the disposition to hypnosis. It is universally agreed that the mentally universally expectably idiobs, even if not whelly insusceptible, are still very much more difficult to hypnosise than the health. However, A. Voisin succeeded in hypnosise than the health. However, A. Voisin succeeded in hypnosising ten per corn of the mentally innound, by exercising the recessory potence. But apart from this I do not believe that isodiffered plays any important part. Of course we are justified in assuming that the dall and stupid are not easily influenced, just as there are others who let their imagination come into play on the slightest provocation. On the other hand, I think that susceptibility to

hypnosic influence should not be comidered a gauge of the patient's intelligence. Mental excitoment frequently prevents hypnosis. Inhibition is also often brought about by the subject's present describe hypnomial. Emotional influences may also account for the fact that persons also are occasionally

selectory, at other times readily submit to hypnotent.

It is altogether a private to emisider the disposition to hypnosis a sign of weakness of will. Without doubt the ability to malitain a passive state has a predisposing effect. This is why soldiers are in general case to hypsotiae. The ability to direct one's thoughts in a particular direction is also very favorable. This ability to give the thoughts a retining prescribed disertion is partly natural capacity, partly a master of habit, and often an affair of will. Those, on the contrary, who can by no possibility fix their attention, who suffer from continual absence of mind, can hardly be hypnotised at all. It is specially among the nervous that many of this class are to he found-persons in whom a perpetual wandering of the mind predominates. The disposition to hypnosis is also not particularly common among those persons who are otherwise very improstible. There are plenty of people who believe all that they are fold, yet they often offer a lively resulance when an

effort is name to beparative them.

Hilger has attempted to accortain the bearing of distinct mental factors on the general susceptibility of the individual. to hypnotic influence. He hopes by these means to determine the possibility, or otherwise, of hypnoticing any particular person. Among the many factors incidental to the induction of hypotois which Hilger has examined, the amount of confidence displayed by a patient in his doctor, and the treatment junued, may be mentioned. Hilger communed egg cases in this respect, and found that an increase in confidence was availably accompanied by a tise in the percentage of those persons susceptible to hypnothing especially where deep and stipid hyperosis could be attained. Moreover, he cird not suggest the queenon of habitual or temporary doculty on the part of his patients. The percentage of those hypnotinable, or susceptible of deep hypnosis, appears to limit increased in all a cases examined by him. Hilger puts his someambulists into three catagories, in the lowest of which we get 10.64 per cent., in the accord 34.07 per cent, and in the third 50.40 per Cent

The old measurement attempted to fix on certain tight as indicative of sescreptually to magnetic influence. Just lack in this respect was nophined on various grounds. Declarater tells as how Prince Henry, the byother or Prederice the Great, once came to Paris and attended the Manue given by a French officer who indulged in suggestion. Mesmos appeared on the some and proposed to sugaritie the passes, but the latter the sentential than he she at Paretting or at Replay. He shi not great experience any of those streatform which magnetization is supposed to liming." Of course the ill moress of the experiment was heally abuillated in the countervaling influence of " royal blood."

Nationality (Ewald), or local surroundings (Brugia), have to influence stace statementality to hypercities. Food in no influence upon susceptibility to hypnotism. Food in Zarich, Renterghem in Amsterdam, and Wetterstrand in Stockholm, have shown that Teutonic peoples are as easy to hypnotice as Latin. Besides, Braid's esperiences in London show marly the same thing; on one occasion in London, he was able to hyperotian sixteen out of the nighteen persons be. experimented on. Recently it has been pointed out in many quarters that Russiam are more early hypnoticed than any other people. At all events the fact remains that susceptibility to hypnosis is not a special characteristic of the Latin mees. It is also to be noted that Ringier and Terrien have shown

that rural populations are mady hypoteizable.

With regard to age, infants under three years of age can sardly be hyperetised at all, and even up to the years of age children can only be hypnomial with difficulty. Although children are otherwise casily influenced, their thoughts are so readily distracted that they cannot fix their minds on a prescribed picture, such as that of hypnosis. Old age is by no mestis refractory to hypnosis. According to the experiences of the Names school, with which mine agest, older persons more often remember, after hypnosis, all that has happened than do younger ones. Sex his no particular influence, a in a mintake to suppose that women are better adapted than even; though Liewesfeld may possibly be right in stating that deepbypoosis is more easily induced in woman than in min.

Besides this, individual observers (Belmand, Manch) mention none pours which may be becomilde or unbrounder. Belound, for excepte, mentions should as beyondale, Masch as subsequeble. But universal consisting should not be digwe from a few isolated shoreastions. For the some senses I question the accuracy of some of Elogier's statements, though the out of his remarks are of great practical value. According to a him byparen is less early induced in wither than in minuter, because cold is supposed to be unlawamble; thus persons who were easily hypnotized in random became titlaction in winter.

The frequency with which an attempt should be made on the same person is of camificultie importance. While, according to Habnic, only one person in ten proves susceptible on the first attempt, the proportion increases with the frequency of the sittings. This is not to be wondered at from the excitament shown by many people in the beginning. And as it is scort important to hypnosis that the attention abould not be distracted, many people are first of all obliged to learn to some centrate their thoughts. I doubt whether continued attempts render everybody hyperoticable, though some earnest investigatoes hold earth to be the case. I have myself made forty or more attempts with some persons without obtaining bypnosis. Perhaps by even longer continued efforts a result would have been obtained, as indeed has happened to me many times even after forty vain attempts. Any one may possibly win the big prize in the lottery provided he lives long enough and keeps on buying fresh tickets. In other cases the mark opposite occurs, and the oftener the attempt is made, the less successful it is ; by a process of muto suggestion a person perunides himself that he is not byunoticable. These are cases in which we get evanescent symptoms of hypnosis. Similarly, there are people who at first willingly submit to hypothic experiments, but later on become intentionally refractory and thereby exclude the possibility of being hypnoticed.

Bearing these subjective conditions there are some objective Thus, for example, disturbing accors at the first experiment have power to prevent hypnosis: they draw off the atternion, and thus interfess with the mental state mocessary for hypnosis. When once hypnosis has been indisced, noises are less disturbery in subsequent experiments. Further, the environment of the subject must be comidered. Any sign of miscreat on the part of lookers on may ensity spoil the expenment; and it is well that the subject should live, as it were, in an acrosophere of suggestion. It is well known that many persons run be speedily hypostited when the atom conditions are fulfilled, and that, as a cule, such procustions unhance the possibility of hypnoticing new subjects. Again, the susceptibility of a whole town or populace may be inflaraced to a remarkable degree by the namer in which the hyperture presents himself to the general public. This, in built, accounts for the great variations in susceptibility to hypnosis which have shown themselves at different times and places. It is, consequently, not surprising this on one occasion ten persons, one after the other, see hypneticed, while on another occasion ten

other persons all prove refractory.

Expensions and a knowledge of the mercal conditions of mankind are indispensable for the hyprotizer, for he has to gauge each individual subject and work upon his unneptibilities. In this respect practice esturally plays an important part. Practice and a gift for observation enable the right stress to be hid at the right moment either on fixed attention or on the closing of the eyes. The experienced experimenter knows how to judge whether it is best in any particular case to attain les nine by speaking, or whether, as sometimes happens, speech would be a hindrance, and the chief stress would be best hid on memoric passer, etc. A person who is castly hypnotised t can be hypnotized by any one, but one who is hypnotized with difficulty can only be thrown into bypmeas by a good experimenter. The factors which play a port in melacing the hypnosis cannot always be recognised at once. It sometimes luppers that a person A, can be hypnosteed by B, while he semains refractory to the efforts of C. On the other hand, it may happen that D. can be inforwerd by C., but not by B. This shows that the influence of one person over another depends on the individuality of both. We find the same in life, in the relation of teacher to pupil, and of pupil to teacher, in the reciprocal relations of friends, or lowers.

That there exists an individual aptitude for hypoctization, and for making the suggestion—to which I lay no claim—is certain. It is true we must not should of this shiftly as did the older meanwhite, who considered it a peculiar physical force possessed by certain persons. We must rather represent this mitural alcility to ourselves as we do many others, when we have to do with particular mental aptitudes. I need only remind my readers of the preacher who brings a whole consumity under his influence; of the doctor whose presence in the sick-chamber immediately implies the patient with confidence; of the great men in history, such as Napoleon I, the magic of whose personal influence has led him to be called a great master in the art of suggestion. It is possible to analyze some of the personal qualifications which confer an aptitude for hypnotization—parismee, calm, presence of mind; others

clude analysis.

The question whether hypnosis can be induced against the will of the subject is one of importance. We must distinguish here whether the subject complies with the presented conditions or whether he does not. If he does -if, for example, he sufficiently concentrates his attention-thus hypnoxis may be produced at the first attempt, even against the wish of the perion experimented on. However, it must be remembered that a person who does not intend to allow himself to be hypnothed will hardly place himself in the mooneary mercal state; he will by his eyes, but will allow his attention to wander. Nevertheless, I think that, granted special conditions, many persons can be hypnotized at the first attempt, even against their sill. This occurs most readily when the general surroundings are of a nature calculated to suggest hypnasis. Some persons can be specially beginned against their wish, if only taken unawares shootly after witnessing a public exhibition of hyproxism. Heidenhain hypnomical soldiers in the presence of their officers, who had strictly forbidden them to sleep. Such a command, coming from an officer, would have as much effect on a soldier as the personal with not to be hypnotical, It is not to be doubted that many people who have been frequently hypnotited can be re-hypnotited against their will. Post-hypnotic suggestion, of which I shall speak later, is also a means of sending persons to sleep against their wish. There is a third possibility-namely, that no wish should exist in either direction. The conditions necessary for laynosis may occur occasionally by chance, without the subject being conscious of them (Max Desion). For example, some one over his work is obliged to look fixedly at a certain point; this suffices to induce hypnosis (sametimes after carrier antit experiments) without the person thinking of it. In this case the will is neither interested for one against it. The statement of Preyer, that persons being photographical sometimes remain sitting middly still after the taking of the pacesgraph is finished, may tie referred to a hitherto unumperted hyprotic state, brought on by the fixed stare necessary to the process. I have already mentioned that some of the immates of the Salpitnière in Paris seddenly fall into catalepsy in consequence of some load unexpected noise. There is no interesting case of a girl who had often been hypotetaed by load noises, and who went to a drawer to appropriate some photographs can of it. The ensual beating of a going threw her into a catalogue state. on that she stood motionless in the act of earrying out her thall, and was discovered. Hack Take remarks that it is a pity all thirteen cannot be taken as easily.

Getain imprevious and not altogether conditio reports have recently searched Europe concerning hyposetism in Japan. It is said that the Japanese have a special method, called jin-jiru, by means of which hypocolic is induced. It is tangle to police officials and others in a special whool in Yelinkasse. The details of the method use officials and others in a special whool in Yelinkasse. The details of the method use official by an unstable person to these moments, the greates the opposition officed by an unstable person to the expert pitted against him, the curve credy has the latter enomials the forener; a simple touch and the victim is paralyzed—emologed abulantly includes. It will not come very much negative if we are personally tall that the great military seconds of the Japaneses were due to their still in the set of hypostisation. In a possible that a discinutive police mean rate, by means of a sample justim touch, runder a sailor of rotomal proportion incapable of farther resistance?

As Bertrand related, with certain persons natural sleep can be transferred into magnetic sleep. Many attempts have been made to do this in later times. Build, Gotheidlen, Berger, Rembeim, Forel, and Manfronis, but more particularly Farez, have made such experiments, occasionally employing the themperties of argyestion at the same time. Some investigators certainly mention the suggestions than made que of ilaring the subjects' ordinary sleep; one thing is certain, natural sleep can only be transformed into the hypnotic state when the suggestions are made in the manner mentioned. Some of the experiments in which ratural deep was transformed into hypnosis were made on persons who had never before been hyprotired, or who on previous occasions had proved refractory to hypnotic influence. I myself have been able to make some observations of this kind. One person concerned was a gentleman whom I had already frequently hypnothesis, and whom I often threw into the hypnotic state while he was taking his afternoon sleep, without waking him. In another case I succeeded in producing various movements, as raising of the arms, through slight suggestions, to a geraleman who was in his afternoon sleep. I was obliged to speak in a whisper to avoid waking him. It is doctaful whether such experiments would succeed with persons who had never heard of hyperotisms. Schrenck-Notaing reports a case in which hyproxis was produced from post-epileptic coms. Cases in which conditions of hissierical sleep have been led on leto hypnosis have been described by Lorwenfeld and others. I may refer here to the

quentipe already raised, whether hypnotic states can be penduced by chemical substances, such as chloroform, etc.

In any case, however, pornious consent is not absolutely necessary to the production of hypnosis, and, on the other hand, there are people who are refractory in spite of a slecided with to be hypnosised. In general, however, the intentional resistance of the subject landers hypnosis, because a person who is writing to be hypnosistal complies more easily with the necessary conditions thus another. Consequently, it is not altorishing that patients who come to a doctor on purpose to be hypnosised, particularly when they come with full considered, are more many to hypnosize than others. These others often allow an attempt to be made with them, with the tilent resolution that "they are not to be ranglet," or they substitutemed on a Norwe says, "only for fur."

As so many different elecanssances influence the induction of hypnosis, it is not surprising that the proportion of hypnotizable persons should be differently stated. If Ewald in the Women's Hospital at Berlin can only hypnotice two persons, while Lichenell hypostices go per cent, of his patients, the reason of this ecomous difference must be in the disparity of the conditions. The insufficient mental preparation of Ewald's subjects is particularly to Liamo for his failure. Bottey gives 50 per cent, as susceptible, Otto Emyranger more than 50 per cent, Morsell ja per cent, and Delicers more than Sa per cent. 'The lamer's data appear to me of great sales, having been evidently collected with entiral cars. As he excludes simulators, by appears to use more acceptical than the investigame at Nancy. The highest percentage of successes was obtained by Vogt, who states he did not find one thoroughly refractory case in 110 subjects experimented on by him. Branwell makes a similar statement with regard to a porticular section of his patients. Bernheim refunes the right to judge of hypnotism to all hospital doctors who cannot hypnotize at least So per cent, of their patients. Food fully agrees with him,

An international investigation on aptitude for hypnous has been made by Schrenck-Notaing, who applied to numerous investigators in various countries—England, Sweden, Germany, France, Algiera, Canada, and Switzerland. Assure 3,705 persons covered by the investigation, only 6 per cent. were completely reliantery. The remaining ag per cent. were divided by Schrenck-Notzing into three groups, according to Fort's classification, of which I shall ston have to speak; bu per cent, attained to sommilence, 40 per cent, to hepotasis,

an per cent, to anneambellion,

The observe hypothic experiments are ranks the sooner is hyperoois generally induced. The first attempt often takes from situates or more, sithough on many occasions a few seconds suffice. When the experiment has succeeded a few times, o few moments are readly always enough to attain the result. This is because the remembrance of the carrier bypoous #64 essentially layours its recurs. Besides this, the strongest findrance has been overcome by the entler hyprosis-which a the belief of the subject that he is not hypnoticable, a belief which often prevents hypnosis. The certainty with which w Bleacen hypochisms bypactine people, rests partly on the fact that these subjects believe that some hypnothers possess a greater aptitude for hypothizing them than others do. On the other hand, Rosenbach and Eachle go too far in their contention that "the nimbus of the hypnotiser" is the essential factor in producing hypnosis. "It is to the mysticism of the achiect to be hypnotized, in the form of a naive but first belief, and not to that of the hyprotices, that we must look for an explanation of the fact that the former person autority to the influency of the latter." This is Eachle's opinion, but auto-hypnosis forbids as all sound acceptance of this view.

Although we have seen that the disposition to hypnosis increases the oftener experiments are made, it may also disappear when the experiments have been discontinued for a long time. But the disposition to hypnosis can generally be reproduced if a few antempts one made. Still, I have seen cases in which subjects who were at one time easily hypnotized later in become altogether refractory, and for no apparent reason.

From the above examples it appears that the various hypnotic states differ much from one mother, especially where the depth of the hyprosis is concerned. This suggested that is order to obtain a general survey an attempt at classification must be made.

A well-known classification is that of Charcoc, who supposes three stages—the catalogue, lethargie, and somearchaile. I shall go into more detain as to those later, but will remark here that this classification has no universal value. Pittes

partly follows Charcot, but accepts so many different kinds of hypnotic states that a general view is thereby trendered only more difficult. The classification made by Gumey—alert and deep stages—is only accurate for a few cases. In the same way the three stages supposed by Richet, Fostan, and Sigard are not sufficiently well defined for partical me. According to Dollouri, there are two stages in hypnosis, one with and the other without analgenia. As, however, complete insensibility to pain is very case, and as the transitions are vapic, insensibility to pain it sery case, and as the transitions are vapic, insensibility to pain does not seem to me to be a mitable datinguishing characteristic. The classifications made by Lifbeania, Bernheim, and Forci are well known. As they agree in the main, only differing in the number of stages—according to Lisbeania, 6; according to Bernheim, 9; according to Forel, 2.—I shall only cite that of Forel;—

Stage s. Drownings: the patient can rount suggestions only

with great effort.

Steps v. Hypotaxy ("chirms"): the eyes are fast closed and cannot be opened; the subject is obliged to obey serious auggestions.

Stage 5. Sommandulium: it is characterized by a loss of memory on waking, and also by post bepostic phenomena.

The classifications of Liebezuit, Forel, and Bernheim rest chiefly on loss of momery, as a particular group (Forel's and stage) of hyperbic states with loss of memory is placed in contrast such the others (Forel's 1st and 2nd stages), in which no amount a course.

There began the nation is which loss of memory entry are reflect assumes being by the nations alone manual. We shall also has absorbed told that the suggests states with converg has of memory may be called somewhalson.

It would be better, however, not to make our estimate of the stages of hypnosis dependent on loss of memory, but on the phonomena which appear during the hypnosis itself. Memory after hypnosis is dependent on many other factors which have nothing to do with the depen of the hypnosis. A chance view of any external object will suffice to around a whole chain of mental images implanted in the memory; further, my shall see that memory is influenced by suggestion. Deficient, who often experimented with profound hypnosis, declares that the subjects after the analysising were able to give an account of all the hyperotic incidents. I should consequently prefer to judge of the depth of the hyperonic only from the phenomena

of the hypopais itself.

The numerous subdivisions given by Licheanit and Bernheim are not easy to utilize, became there exists no uniform penciple for such classification. For example, one stage is distinguished by the complete classing of the eyes, and a desper stage by motor disturbances in the arms. As these last, however, can also occur when the syst are open, they rannot be regarded as a sign of the despening of the stage in which the eyes are closed; for in the despening all the phenomena of the previous and

lighter stages must appear (Max Desseir).

In order to avoid these difficulties, Max Dessois has published a classification of the stages of hypnosis which is as simple as it is comperhensive and clear, and which I will consider to be the best, just as I did many years ago. According to this the states fall into two large groups, which are dreded from each other by the extent of the functional disturbances. In the first group merely the voluntary mavements show changes; ie the second group abnormalities in the functions of the surer negates are added. The principle of this classification was already known to Kinge. If we accept Dessoir's classification, the minority of subjects belong to Group II.; thus, assuming 75 per cent, to be susceptible, 55 per cent, belong to Group I. and so her cent to Group II. According to Kree this latter percentage is perhaps too high. He conjectures that through practice and other factors these figures might vary considerable. The seasts which Vogt has obtained are simply marvellousby cases of someambuism in 130 subjects esperimented on

It will be understood that in Descon's two groups many stages and types can be distinguished. For example, we not that many a hyperotic state belonging to Group L is merely characterized by the closing of the eyes, which the subject cannot infuniarily open, as in the first experiment (p. 34). This state used to be considered as a particular stage of hyperonia, but according to the explanation given above it takes its place as merely a particular form of Group L. It was frequently represented as a persicular stage of hyperonia, became in many cases hyperonia is inhered in by a closing of the eyes, while other muscles are only affected later on, However, this may be a pure accident (Max Dessoir); we have accustomed carnelyes more and more to induce hyperonia by

affecting the eyes, and to provide a closing of them as quickly as possible; but this is nothing but a habo, reculting from the identification of hypotolis with sleep. Hypotolis even who induce hypotolis when the eyes are wide eyes, in it the ease in "fractioning," which will be discussed later (cf. 3rd experiment, p. 38). Lowerfeld, also, has elaborated a method is which any effect on the eyes is only of accordany importance. I myself have met many people in whom it was impossible to bring about any abnormality in the movements of the gyr, while other numeles were grally affected. For this reason, it think the assertion of Michael that hypotosis can only be proved when the eyes are completely closed is entirely mustaken. Certainly he is perfectly right when he says that we should not astribe to hypotolis the states of fittings and giddiness which entire after long attention, unless other phenomena typical of

hyperesis also appear.

It is clear that the two gooups cannot be sharply divided from one another. Also the transition from a normal state to hyperisis is gradual, and certainly not so sudden as some think. We find many stages even before we arrive at the closing of the eyes, which certainly does not indicate a deep hypnosis; at first only beaviness of the eyelids, then a desire to close the eyes, then a difficulty in opening them, and finally their complete closure. All possible stages are displayed. Further, a deep hyprode is not always attained at once; the light states are often passed through before the despect appears. It is naturally difficult, through all these different transmore, to decide the exact moment of the appearance of hypnosis. A drep sigh, which often others in the beginning of hypnesis, is by many avergly considered as diagnostic of the moment, porticularly as this symptom is easily spread by instation (Belbour). The movements of synflowing which appear, especially after long fishion, have equally little significance.

As already shown, the word "hyproces" is derived from the Greek form, and this might induce one to conclude that the term hyprocis should only be used to describe a condition resombling sleep. In reality, however, the cases in the first group show no mentalshares to sleep or a loss of consciousness. And yet there is a very prevalent notion amongst layeren that there can be no hyprosis without sleep and loss of consciousness, and persons helding this view do not refer the conditions exhibited by the first group to hyprosis. But this is not a

question of what the layman thinks or believes; as Vogt has rightly pointed out what may or may not be ascribed to hypnosis can only be decided by those persons who have dramed themselves to a creical study of the whole subject. To poesent any confusion which might possibly arrise from the etymological resemblance of the words "hypnos" and "hypmosis," it has been proposed to distinguish those coses in which there is no semblance of sleep and in which conscioususes remains normal, from deep hypnosis, by a distinct appollation. May Hirsch has proposed for each superficial conditions the term Captivation. (Linchlaff also would like to see the aforesaid conditions distinguished from byprosis, and terms them pseudo-dypnotic. We might even agree with Hirschialf on this point in spile of the fact that some of his theoretical explanations of the question raise considerable doubts in one's mind. It must, bowever, he pointed as that it is morte usual to find that the etymological signification of a word no longer covers all the uses to which it was originally applied, or that in time it gains a much wider meaning. I may refer to the word electricity, which now scarcely sentials any one of electron, amber. We need not stay to consider Beraheim's somewhat emoulir statement that there is no such thing as hypnosis, but only suggestion. Plante Janet bas justly & pointed out that because these are many transitions from the normal state to the hypnotic, we are not therefore entitled to say that there is no special condition of hypnosis. A condition which, on waking, itsees no recollection behind, as in the fourth case, and in which the subject becomes a more pupper in the hands of the experimenter, must be comidered a condition altogether distance from the normal.

One peculiar quality of consciousness at all often find in hypotens: What is called suppossibility; or, better, increased suppossibility. I shall no often me the word, and words connected with it, that is will be well to define exactly what is mount by it. For this purpose I must make a little digression, remarking at the same time that many works—excellent in their way—which have been written for the purpose of giving a clear definition of what is meant by suggestion, will not be dealt with by me at this justifier; but I may as well stemion the names of certain authors in this connection—Barabean, Forch, Welliam Hirsch, Bergmann, Lipps, Schwinck-Noming, Parish, Vogt, Bushnonn, Lawworfeld, Dollkon, Hellpach,

Handriall, Sidis, Bechteren. The works of these and other authors are estable from a psychological point of view, and I shall refer to them later on in the chapter dealing with the theory of hyparthine. It is not necessary for me to discuss them here at any length, as my object is to arrive at the burefest definition of supportion possible.

Every concept in busines beings has a particular action, which is to be acceptated by an external or internal effect. For example, by the lases of issociation, one concept calls up another. The idea of St. Helena at once awakens that of

Nepoleon I.

This peculiar menting of ideas by other ideas was called the law of suggestion by a great school of Scouth psychologists (Theoret Brown and others), and Paul Janes thinks this trip repression inflated Binds to introduce the term "the suggest" for an analogue, phenomenon—of suggestion fractions which we shall discuss takes on,—though Branche used it earlies in his Psychiatric Elementary, to democ questions which ideas area in during magnetic thesp.

A concept care, moreover, produce an effect by arouning feeling; if any one thinks of a dead relative, he feels girel, and the thought of a joyful event awakers a feeling of happinese. Inclinations are called up in the same way; the idea of an object for which one has a great longing awakers the desire to possess it. Semations can also be produced in the same manner. We have an example in the tichings which many persons feel directly these are talked of. These ideas, feelings, semations, and desires are talked of. These ideas, feelings, semations, and desires are talked of internal especies ce. But an idea can have an effect which displays itself externally—for example,

thoughts call up curtain movements.

Let us here consider a proceeding which is called thoughtscaffing, which, as the "willing game," was for a long time a forcente society game in England in a somewhat modified form, and which became popular in Germany though the exhibitions of Cumberland. A person A is made to lease the rooms among those who remain, B. a chosen to think of some object present, which A is to find. A comes back, taken R's hand and demands that be shall think standbatly of the chosen object; let us say it is the lamp. B, thinks standbatly of it, and it is seen that A smill B, go sugether towards the lamp, not A, possing to it, says, "That was the object shought of!" Simple as this process—explained by Beard, Gley, Richet, Obsessmen, Preyer, and known about sixty years ago to Chavoral and Benid-may be, it appeared originatical to many at first. The usual explanation of thoughtenading is the following: - B. thinks steadily of the place of the lamp, and has at the same time slight most mout of the body, and particularly of the muscles of the arm, in the direction of the lamu. fords these muscular movements and follows them, he permits himself to be elected by them, and in this way finds the object thought of. It, naturally, did not make the movements intentionally, contequently they were involuntary and uncomeious. All the same, the movements were strong enough to show A, the way. This example shows us the foliairing B. had a certain idea (namely, that of the lamp) in his hand, and this concept called up the movements. The movement of the tips which occurs where one thinks intersel) of a word, is of analogous character (Stricker),

We see, then, from the foregoing, that ideas arouned in us have an effect which sometimes shown itself as other concepts (ideas, sensations, and so forth), and sometimes externally as movement; in many cases, perhaps in all, there is both an internal and an external effect. What effect appears, what idea, what feeling, what movement will be induced by the first coverpt, depends upon the individuality of the person, upon his imagery, upon his character, his habits, and upon the species

of the concept.

In many cases a person, A., is able to attain some particular effect intended, by russing in R. a definite concept; and this effect is often obtained independently of B/s will, or even against We see an example of this in a juggler. He wants to take totale object or other in his right hand without being seen by the public; to attain this be looks at another point-for example, his left hand. The eyes of the spectators, involuntarily follow By glancing at his left hand the juggler has caused the spectators so look in the same direction. He has aroused in the spectators the idea that something is going on in his left hand; and this idea has had the effect of making the spectators look at his loft hand. It is not at all necessary that the spectator should be comeious of the idea which is being improved on tion. Habit impels him to look in any direction indicated, without further consideration; and thin spectators are often induced to look in the direction desired by the juggles, in order that he may be able to change or hide some object imobserved.

Naturally, the juggler takes great care rose to direct the spectators to look in any particular direction. If he were so do this the spectators would discover his object, and would not look at the spot which the juggler wishes, and the latter would not attain his end.

On the other hand, there are also cases in which a desired offert is offsised souply by assuring the person concerned that the effect would appear. In most cases he is able to persent arbitrarily the appearance of such as effect; but not always, however. An example hought forward by Boneior should make this clear. One says to a person who is embarrissed, "Vote are getting red to the face now !" It is well known that turns people really blosh when the contiction that they are burshing is aroused in their minds. Now, a proceeding of this nature is called a suggestion; and should enable us to form a conception of what "suggestion" scally means. We have seen that an effect (blushing) has been posthood by merely suggesting the idea of it. If we base our conception of suggestion on the process just imutioned, then suggestion itself is a method of producing an effect by calling the watgington into play. " This defination, which I thid down long ago, consulcrally nestricts the whole conception of what is meant by suggestion, when compared with other definitions. For example, when Bencheits so dolines suggestion as to include Carly pur liquel kon este est introduite dans le cerceno et acceptio par loi, me cannot under any circumstances in the present day accept such a wide concept. Other authors also, such as Bernius, go much too far in their definition of suggestion; according to them we should evertually be compelled to include every possible kind of influence-reason, taition, inlightenment in our idea of triggestion. In spite of this, Hirschieff objects that my definition is much too wide in its scope. Hirschlaff thinks it would include the source of many convictions which are brought about in a perfectly soon all master, and which have nothing whatever to do with the process of suggestion. "For example, if I say to an acquaintance, 'Some one has just told me that free his limbon out in your house during your absence,' my hired's motor and emotional spheres are both affected by the committion which my statement has brought frome to him. But that is not a case of suggestion." This hat remark is perfectly correct, but in newless contradicts the definition given above. In Hirsettlaff's case the motor and emotional results did not occur Arouse

The set by which are idea is interese - it to

external industrie had aroused the socion that each results would occur, but rather that the person in question was logically convinced from previous expensione that what he had been told could be believed, his informant having no interest in telling an untrath, being thesefore, so far, trustweetley. As Bechterer also has insisted, the most important point in suggestion is that the influence must be of a direct sature, became it is not the algo of the subject which beings about and definition be properly interpreted, there is no necessity to add & to it. It must, of course, be admitted that misapprehensions are always possible; this we have seen from the very nature of the objections raised by Hirschlaff. Still that is no reason why we should not join William Hirsch and Lipps, and include the production of an effect, even when the conditions are inadequate, among the characteristics of hypnotis. If I tell a person on whose forehead a fly has cettled that he leels an itching in that region, and he slore smally experience the separation, that is not a case of suggestion. For here we have the adequate condition -the imitation caused by the fly. Even if in the case just stated, the person concerned were so lost in thought that he did not seel the arching until I called his attention to it, we should not be justified in speaking of suggestion. The more fact of astracting his attention, coupled with the irritation camed by the fly, would be quite sufficient to make him feel the itching. Similarly in Hirschlaff's case, the man's belief that fire had booken out in his house was aroused by conditions which must be considered adoquate; on the other hand, if he had been sitting hypnotized in his room and had believed the room to he on fire became he was sold that such was the core, the physical conditions would not have been adequate. Anyway, in order to avoid any misunderstanding, we may formulate our definition as follows: - Suggestion is a process by means of which an affect may be produced, even when the necessary physical conditions are absent, by arouning the notion that the desired effect is about to be produced.

What is understood by inadequate conditions has been discussed by Lippe in his well-known energy. Zer Psychologic der Suggestion. "Some stimulation is understoodly the adequate condition for arousing perception. As far as the conclusion arrived at is concerned, there are various adequate conditions or means. Thus perception, reflection, or the permission of

another may all be considered adequate conditions for my arriving at a conclusion. I can som all this up in single expression—the adequate condition for arriving at a conclusion is "a rational basis." Consequently, when a conclusion is induced by suggestion the antional basis is wanting. Finally, correctorantees of the value of any object—the pleasure it may produce, its utility, or as ethical or authors worth—is sufficient to being about a velocitary across. It is possible that custom and some other factors may here play a past."

It is not difficult to perceive that there is no definite fruit to "insdequate conditions," since they depend so much on the individuality of the subject. As Lippa points out, the special value of anything may prove an adequate means of inciting a voluntary action. But the concept of value differs with different individuals. In spite of all this, it must be admitted that by recognizing these "inadequate conditions" we can more emile.

grasp the notion suggestion process.

Many other attempts have been made to define suggestion, but in some instances theory and definition have been confund. To a certain extent this objection applies to those definitions in which the associative disposition is held to be the chief characteristic of suggestion. The definitions given by Schrenck-Noting, Schaffer, Lewenfeld, and Wendt belong to this category, although they contain much that is valuable from a theoretical point of view. There are also other definitions which do not differ very much from that hid down by Lippa. For example, Hirschlaff considers the production of an effect without a targble cause to be the most important point in. suggestion. He lays stress on the absence of motive, while others, like Dahou, consider that the effects of suggestion are produced in a somewhat mysterious manner. Vogt holds suggestion to be the abnormally powerful action of the desire to attain an end. I myself believe that the definition I have gives will suffee to entry as through our further investigations.

We shall now see that suggestion plays an estraordinarily great part in hypnosis, and it may be remembered I have already given numerous instances of suggestion in cases I have seferred to. The Nancy method of inducing hypnosis is of a similar nature; an effort is made to induce the patient to believe that he is going to be hypnosised, and when the effort

is suppossful hypnom follows.

Now, there are cases in which the notion of an effect may

apparently arise spontaneously, without the intervention of a accord person, and the effect ittelf be produced, even when the subject is unwilling. We often meet with this in discuss. I have already mentioned the case of a man blashing because he was firmly commisced that he was himbing. But there are cases in which people blush without anybody interfering with them. The notion for blushing is to a certain extent personal, and is called by pathologues the "fear of bimbing." Fear and imagination here run hand in hand. As soon as such a person. Imagines that he or she may blish, then he ar she bushes. Here the idea of blushing it not around by a second party; it is purely personal, and we therefore term it a cute of autosuggestion in contradistinction to a notion around by some other person, which Bentivegni calls external or beterosuggestion. Auto-suggestion of this nature plays an impertant part in certain pathological conditions. There are many stammerors who only stammer when they think they are going to stammer, but who can speak quite well when they do not think about traumering. Many an impulsive idea may be ascribed to auto-suggestion, although Lipps attempts to draw a distinction between the two. For example, a patient enfering from appraphobia is filled with the fear that he cannot cross an open source alone. No reasoning is of avail here; the patient acknowledges its justice without permitting it to induence him. Often-but not always-logic is for the most part powerless over these auto-suggestions. Many hysterical paralyses are also auto-suggestions; the patient cannot move his legs faccume he is convinced that movement is impossible. If this conviction can be shaken, movement is at once practicable.

Auto suggestion may be called up by some external cause. Charcot referred some isolated traumatic paralyses to something of the kind. Accreding to this view, a violent blow on the arm, with its resultant disturbances of sensibility, may produce in the person concerned a consistion that he cannot move his arm. As the consistion was called up by the blow, this case stands somewhere between external suggestion and auto suggestion. We will call all cases in which the auto-suggestion did not arms sportaneously, but was the secondary result of something cise, such as a blow, indirect suggestion, as opposed to direct suggestion, which process a certain files immediately, of which I have already given several examples. It is not always necessary that there should be a conscious

mental net in suggestion; individuality and habit comotimes replace this, and play a great part in the training of the subject, of which we have still to apeak. If some external sign, such as a blow on the arm, has oriental times, by means of a conscious mental act, produced the auto-suggestion that the arm is parsiyeed, then the auto-suggestion may repeat stell later mechanically at every blow without any conscious thought of the offect of the blow.

A particular psychical state, disposing to suggestion, is a necessary condition of its appearance. The disposition no

suggestion is called "suggestibility."

We shall now see that we can in this way obtain many effects by employing expression during hypnosis. We shall also see that we can produce these effects not only during hypnosis (hypnosic or intra hypnosis. This is post-hypnosic suggestions. By means of this we can tell the person in the hypnosic suggestion. By means of this we can tell the person in the hypnosic state that after his awakening a particular result will follow. We can also distinguish another kind of suggestion: something may be suggested to the subject below the hypnosis which is to follow in that state. This is per-hypnosic suggestion (Maack, Stembo).

## CHAPTER III.

## THE STRPICUS OF HYPNORES,

I now come to the symptomatology of hyproxis. In order to make as complete a survey as possible, and only for that reason, I must arrange the subject-matter under the beatings of Physiology and Psychology. It must not be thought, however, that we have to do with a real division; of that there can be no spection. For the hoddy functions show a deviation from the normal purely as a consequence of changes in the psychical state. Just as a man paralyzed by fright cannot move in coasengence of a mental shock, and not from any injury to his missies, so people in a state of religious excitement have vinious, not because their eyes are abnormal in visual function, but because they are in an abnormal mental state, thus in hypnosis the muscles, the organs of sense, etc., are abnormal in function only became the mental state is altered. Only from this point of view is the division made in what follows. As we shall see later on, it is doubtful whether there exist in bytmosis any primary bodily almormalities.

In consequence of the close tie which exists between the mental and bodily phenomena, it will not be surprising if, in discussing the latter, I am often obliged to refer to the former and vice versi; a thorough teparation is not possible. In order not to destroy the inner unity for merely external considerations, I shall occasionally deviate from the purely tabular

anungement,

## (1) Farmings

We will now pass to a discussion of the functions of the individual organs. The alterations which we find in hyposisaffect the voluntary and involuntary muscles, the organs of sense; common sentation, the secretions, metabolism, and inputate once also the cell power of organisation.

The wountary muscles show the most frequent abnormalities, and suggestion sourcion as entraordinary influence over their functions. When no ideas are aroused by suggestion during approvis, we find the greatest differences in the behaviour of the voluntary muscles, according to the method of hypnoticstion rejected, and according to the character of the subject. Some are able to move with perfect freedom will the command of the experimenter inhibits some particular movement: many, on the contrary, look as if they were asleep from the commencement. In this case we see no movements, or very rate. ones, which are slow and laboused. When we discuss the phenomena of suggestion, we shall see that this incapacity for movement cannot in certain cases be removed by the command of the hypnotist. Bowen these extreme cases there exist all sorts of transitional stages. It is all the same which of these characters has the preponderance; muscular activity can really always he influenced in a high degree by suggestion. By means of it we can make movements impossible, or else influenmovements.

I have already shown (page 34) how easily I can make the second subject's arm powerless to move simply by arousing in her the conviction that her arm is powerless. In just the same way the movements of the logs, trunk, larynx, etc., escape the subject's societ. "You cannot more your arm; cannot put out your tangue." This suffices to make the forbibles movement inpossible. In some rasm the inability to move arms because the person cannot voluntarily contract his muscles, and his arm consequently hangs limp; while in other cases a contracture of the antiqueistic muscles makes every attempt at a voluntary astronous useless (Bleuler). In the same manner the leg will lose the power of motion at command. We have seen (page 14) in the second experiment how the power of speech can be taken away. And it is even possible to allow the muscles to contract for one particular purpose only. If we say to a hypnotic subject, "You can only say your own name, for the rest you are absolutely dumb," the desired effect will be produced. In the same way it is possible to prevent movements of the arm for any punicular purpose. Thus we can make it impossible for a person to write, though he will be able to do

<sup>&</sup>quot;For the take of breeze I shall for the fature one Pauggastion" for "extremel suggestion" when the contrary is not expensely stated, and I shall treat cognitive terror in a similar manner.

any other kind of work. The subject can sew, play the piano, etc., but all efforts to write are vain. As a rule, the movements only become possible when the experimenter gives permission. It is remarkable that in some persons one set of unarries in entier to influence by suggestion, and in others another act. We can make a person dumb by suggestion, while all the other matries obey his will in spite of suggestion. Another, again, loss the power of moving his arms, while his speech sension marketed.

In just the came way as muscular movements are presented by suggestion, so can movements be induced by it against, or without, the will of the subject. We have seen (page 35) how the subject in the third experiment knelt down, followed me, and so kith. I say to another person, " You are lifting your right ann to lay it on your head"; this happens at once would imite that it must be decided whether these movements take place without or against the will3 of the subject, as in the latter case as increase of sessibility is already demonstrated. I say, "Your left arm will now rise up in the sir"; and the arm rises as if drawn up by a string, although the subject makes no voluntary movement; but unither does it occur to him to resist. The movements without the unbject's will can often be distinguished from those against it by a certain steady case. These last are nearly always characterized be strong nuncular contractions and by trembling-evidences of antagonistic forces, the hetero suggestion of the hypnotines, and the will of the subject. This shows how the hypnomed person fights against the suggestion to keep his arm in the air, and also gives a clue to the tremblings.

fust in the same way the hypnotic subject is obliged to

cough, laugh, talk, jump, etc., at command.

It is further possible to generate by suggestion the idea of a paralysis of one of the extremetics. These isolated paralyses have a great resemblance to the psychical paralyses arising without hypnosis, such as Russell Reynolds described in 1809 as "paralysis dependent on idea," and Erls later on as "paralysis by imagination." Charcot's papils have tried to find objective symptoms of these paralyses that depend on suggestion. It

<sup>&</sup>lt;sup>4</sup> It is not my intention to employ experience other than those generally understood; homey my use of the excel "wall" here and in come other planes. From a whichly psychological point of view it would possibly be more correct to one "artitionly volution" or "week."

cannot be doubted that such objective changes may occur though a puricular association of symptoms; this hypothesis is supported by Krafft-Ebirg also. We start, however, to cognize that this is not the rale. According to Lobes, Gilles de la Tourette, and Richer, the clinical characteristics of these paralyses are marked by the absolute loss of secon power and sensation, increase of the tenden referre, ankle clones, at times west cleans, complete loss of nuncular sense-i.e., of the ability to control perfectly the action of the nuncles and to be remain of the position of the limbs,-charged electrical contability, and wascenton disturbances, these last any purticularly said to show themselves by a bright flight of the skin on slight stiteulation. Vogt also found that the sensory and motor plumomena were not abogether unconnected. When investigating the nature of a case of amestics of the arm produced by suggestion, he olimered that the limb had lost all power metion. But electly the patient was firmly impressed with the idea that he could move his arm, there was return of the power of movement, and of seposition as well. Partiyals produced by suggestion may be of hypnidic of post-hypnidic term. Besides there paralyses in which the muscles are completely relaxed, other purposes, in which the muscles are persistently contracted, can be induced by stangestion.

With these subjects who are deproved of will, besides the mosements described above, complicated mosements, or over performances (if I may be allowed the expression), also take place by suggestion. I say to the subject, "You will spin round time times," or, "You must lift that thing off the table; you must go and do in you cannot help it." The subject

riocs no he is told.

The suggestion itself is made in different ways. The main point, and all turns upon this, is that the subject should theroughly understand what the experimenter wishes. Each of the organs of sense is a door of entrance for suggestion. The most common is naturally our labeled means of communication—speech (verbal suggestion)—by senses of which we tell the subject what we wish. But it is very important, and often much more effective than words alone, that the experimenter should perform the movement which the subject is intended to execute. Professional magnetizers in particular habitually induce movements by imbation.

Imitation appears particularly in a hypnotic state which certain mathors (Bommad, Mornelli, Tanan have studied, and which Descuttin calls incination or captation, I have shown (p. (s) in the third experiment a case of this kind. A professional magnetives. Donato, has demonstrated this state completely; and Monulli and others have on this account called this form of hypnosis Donatitm. As I saw in Paris, Directo uses a particular process to bring about this state. This process aims at a primary forced contracture of all the muscles of the body, in order, by this recans, to limit the voluntary provements as much at possible. In this case the eyes of the byproflix and the subject are firmly fixed on one another from the legisning. The subject finally follows every intovenient of the experimentar. If he goes backward, the subject follows: if he comes forward the subject does the same. In the same way the latter imitates every movement of the experimenter-only on the condition, however, that he knows he is intended to do so, that is the main point. We have in the chird case that faccuration may be a primary form of lognosis. But it can also be originated secondarily from other hypnotic states; and this is more usual. When the experimenter has hypnotized the subject in some other way, and has made him open his eyes, he can fix his own steadily on them, and thus induce the same plemomens. A sunity of this inscinution is to fix the eyes of the arbiect on some other object-for example, on the fugger of the experimenter. In this case the fascinated person follows every movement made by the examinenter.

But imitation plays an important side in hypnosis, as well as taccination. This results from the fact that the eight of a tablement accesses a much more vivid picture of it in the

Inprotised person than does a more command.

Verbal suggestion is also made easier by other gestions. In order to compel some one to bracel down, an energetic movement of the hand accompanying the verbal suggestion is very effective, as in the third experiment. With this fact is connected one of the phonomena which magnetisers are food of demonstrating—causely, the drawing of the subject after the experimenter, who makes movements with his hand which show the subject that he is istended to approach. The experimenter can also ropel the subject in the same way. This succeeds in particular by means of movements of the hand,

indirating that he is to go away. It is not at all necessary, in this case, that the subject should see the movements of the experimenter; it is sufficient that he should doing them either from a noise or a current of air; thus the hyprotic obeys the experimenter even when he has his back torond towards him. Upon supportion also depend the attraction and repension of single limbs of the subject, which happen in the same way through the hypnotic's proception of the experimenter's genures. Without attening a weed the experimenter can make the subject raise and drop his hand nearly by gesticulating with his own; he can also obtain many effects by a glance only. It is not necessary to look steadily in the eyes of the hypnotic, as in fractionion. The operator leoks at the subject's leg—it at once becomes powerless to make. The hypnotic is going away—the experimenter suddenly looks at a spot on the floor, and he stands chained to the spot.

We all know the effect which may be produced by a look, even when the present holded at it can beyondized. A total will look facedly at a papill whom he impacts of lying in the hope of producing an effect. The look with which a tames of wild Leans force his animals may be included home, in upin of the energ foliation autements which have been made about a c also the fined gase by means of which a suspent centum im prey incapable of moving. I may farilies remind my readers of the "forcessing gave," and the "well upe" by means of which an evel influence was appropriate of moving. I may farilies remind my readers of the "forcessing gave," and the "well upe" by means of which an evel influence was appropriate the currence. In Southern Easings, as well as among the few of Morthern Arters, the deem of the cull eye is strongly moving. Venture symbols have notice as a protection against it (Fitners). In Italy pumple who believe in the cull eye hold their hands in a particular position when they fear its offerst, as I have offers had the apportantly of observing. Thosing my residence in Palestine I was frequently able to verify that the belief in the soil eye is will wishly appeal among Medium medium and Christians (Proper, Emisor). Suggisted has collected summar passages from the Palle and the Tainont which proce a builet in the real eye.

Not only articulate speech and gestines, but music also has a supportive effect. Mesmer long ago recognized the influence of music, and used a then newly-invented instrument, the hell-harmonica, to obtain the necessary effect. If there music is played, the subject will dance following the plythm; and when the dance is changed to another, he alters his step to correspond. I shall have occasion to role to the influence of music again later on.

The muscular sense which keeps us informed of the position of our limbs, and by means of which "catalepsy by sugges-

tion "I is induced, requires particular consideration as a way of entrance for suggestion. It is also to be found in other states than hypotonic-for example, in some cases of typhoid (Bernheim) -and frequently occurs in hemonis. I lift the arm of a hypnotic, hold it in the air, then let it go; the arm remains as I placed it, although I say nothing. Why does this happen? Because the subject believes that the arm most remain thus, Another person less his arm fall; I take it again, and say at the same time, "Your one keeps still"; this bappens; but only because the person now knows that this is intended, while he did not understand the simple raising of the arm. Let us return to the first subject. I mise the arm again, saying at the more time, "Now the arm falls dawn," which, in fact, tappent ; but only because the person believes that he is to let it fall. The lege, head, trunk, and so forth can be put into different jostures and maintained there in the same way; the muscular sense here suffices to transmit the suggestion. The inedination of the subject to maintain cataleptic positions is so great that Heidenhain considered the hypnatic state in be a catalogay antificially produced. Catalogay by suggesthe must en-

The main point for the attainment of catalogue is that the subject cloud accept the idea of the corresponding artitude. Consequently the idea must be allowed to act for a considerable time before the deared enalt can be obtained. Words arower the purpose as well as other signs; many persons can only be thrown into catalogue when the experimentary insists on the attitude required being maintained for some

times.

The meaneric passes (p. 34) which we have already become acquainted with as a method of producing hypnosis, here deserve especial mention. These meaneric passes can be used locally in hypnosis—for example, over an arm, in order to make it cataloptic. Caraloptic attitudes which cannot be produced by verbal suggestion may often be obtained in this

<sup>&</sup>quot;As the most different elems could as in which "Catalogue," meant, I remark have that, for the take at brevity. I shall so name any state in which voluntary movements disappear and the lands remain as they are placed by the experimentar—without having regard to the length of time which alipsan before the limits move freely again, or full from their ment weight.

way. As far as I have been able to study these phenomena, it is unnecessary in their case to imagine an especial force as an explanation; according to my view the efficiency of the memoric passes results from the fact that by means of them the whole attention of the subject is directed to his some for a long time. By this means the idea has time to take root. Let any one after his arm or his leg to be meamerized in this findion and be will find that his whole attention is directed to this part of his body, and much more fercibly than if the attention was concentrated on the limb in any other manner. From this it follows that contractions often only appear when the memeric panes have down the attention for some time to the part of the body concerned. Passes with contact act in exactly the same way as pusses without contact. In any one it must be remembered that the effect only appears when the individual has an idea of what is intended to follow. That centifical priors tall up contactions, and tentripital ones discipate them, has often been avorred; but here we have to do with unintentional suggestions. I have as often been able to do the same thing with centripetal passes as with centrifugal.

We thus see is what marrier suggestion affects the voluntary insides. It is often observed that muscular activity appeared by suggestion has a fundancy to pensist. Thus a certain state of contraction is continued for a long period—there is, is fact, a contraction is continued for a long period—there is, is fact, a contraction of a long continued movement may set in; or, finally, when the muscles are relaxed, a contraction of them can only be obtained with difficulty or not at all. Sometimes when the particular muscular activity has been primarily aroused by suggestion, the experimenter cannot at once construct the effect of a primary suggestion by a second.

These cases, in which the arriest of the original suggestion cannot be easily intributed, recall cretain forms of insusity, such as materialistic near impose. Bancook has shown that the distributes of insychect in the and other insuables can be brought about by a primary payable powers, can by a delession, but the when the cases has possed, the distributed of boorgapet, may private accountically.

I have guidlished many experiments bearing on this point is a book of some, the diagrant in the Reference, Universalization for the manufacture of the Society for Populational Research, Euro 1 and 4) Leipzig, (Sep.

Various derives that there is any tendency for the suggestion to become fixed in hyperosis; he has always here able to remove the suggestion of man. Nevertheless, he remarks in a missequent pricege that he has investigated to the sund apposition flaging several seconds; but that is only to be regarded as an anti-suggestion, a bother one solute it as proxy aggression or not in a number of indiffusions. The phenomenous is found in a region group of cases.

I order a person to stretch out his right arm stiffly. The arm is stretched out, and the subject is unable to bend it of his own accord. In most cases, directly I command the arm to be best it can be done; but there are some cases in which the experimences is unable to put an end to the contracture

at once, but the effect of the carrier idea continues.

A particular movement can also be continued for a long time in the same way. The so-called automatic movements described by Liebeauth and Bernheim, or continued movements, as Max Descor more properly terms them, belong to the same category. If we turn the arms of an hypnotic mund and round each other, the tendency to continue the movement pensits, even after the experimentel has ceased to compel it by stopping turning his own arms. This also happens when the subject believes he has to go on turning. In some cases he continues turning his arms passively, while on other occasions he makes the strongest possible effort to keep them still, particularly when requested to do so. Such resistance is, however, usefera; but in most cases a new suggestion of the experimenter that the arms shall stop is enough to assest the movements at once. Sometimes, however, the experimenter finds it impossible to obtain an impediate arrest by a countrycommand. I have often observed that a movement has continued for some time in spits of my order. We can also induce alternate movements of drawing up and stretching out in the arm and leg, and coulding and stoking of the head, etc. A particular movement can also be continued for a long time in the same way, when once started. Again, I lift up an arm and bend it gentle at the elbow-joint; directly I les go it repeats the movement. If it is desired that the hypnotic shall walk and he does not obey the command, let him to pulled forward a little; he will then when left to himself continue to walk (Heidenhain). The involuntary laughter, which I have often heard, is connected with this; it begins on command, or on a slight provocation. There are also pathological cases of upcontrellable laughter, showing decided exemblance to these cause of hypnosis; Feederoff, who has published several observations, seless it to a weakening of the will and, consequently, to a similar condition to that found in hypnosis. This laughter in hypnosis also examilies the choerfulness produced by baschisch; under the influence of this drug, expressions which see quite imagnificant excite involuntary implater (Moleschott). Observations has observed the hypnosic laugh in his own case, and has described it.

In some cases the passivity of the subject is so great that the suggestion of the experimenter is unable to overcome the muscular relaxation. Subjects of this kind let their arms drop after they have been mised, in spits of all suggestions. Questions are not answered, or only slight movements of the lips show that they have been heard at all. Two different types of hypnosis, which are called active and passive, may be distinguished by the absence or presence of this muscular relaxation. The plasive form has a great external likeness to mitted sleep, while the latter might be taken for a normal state on apperficial observation. Passion hypnosis is not camildered by some authors (Braid) as a form of freprioris, but is considered to be a sleep, because the especial symptom is wanting which those investigators regard as the pocessary characteristic of hypnosis-ramely, catalepsy. This does not appear to me absolutely necessary in order to show hypnosis. Hypnosis refler shows itself as passive at the beginning; as soon as the eyes are closed the head drops forward or buckward, because the supporting muscles of the neck are relaxed. These are many transitional states between active and passive hyprosis, and one often passes into the other.

The motor disturbances which appear in the eye must here be particularly discussed. We have already seen that many hypnoses are characterized only by the closing of the eyes—a fact already known to Heidenhain—while in many cases this is added to other symptoms. But closing of the eyes can also be influenced by suggestion, and an order of the experimenter is strongly in most cases to cause their instantaneous opening. Closing of the eyes greatly favours the appearance of other hypnosic phenomena, but is not absolutely indispensable. There are persons who can be though into the deepest stage of hypnosis by a deep gaze, without the eyes closing at all (Gurney).

Although, as we have seen, closing of the eyes is not a necessary preface to hypnosis, yet the eyes are in most cases ciosed, and it is often impossible to permit them to open withexit ending the hypmons at once. Even when the syst open during the continuance of hypnosis, there is in many cases a certain heaviness in the life and a desire to close them. Much depends, however, upon the method employed; and peintary fractination in particular always occurs while the eyes are wide open. The closing of the eyes is sometimes very gerile, and not spasmodic; though in a number of cases the nanotles which close the eye contract speamedically. Besid and Heidenhain already pointed but that when the lids close, even in the deepest hyperoxis, the closing is not always complete. There is often a little chiefe of opening, and this is not unimportant, became many experiments in "clairvoyanos," and also pretended "reading with the pit of the stomach," may be explained by the ability to see through this small -conting.

Waile the eyes are closed the life not inselden have a vibratory movement; but this symptom is of no real inportance for diagnous, as on the one hand it is sometimes warring, and on the other hand often appears without hypnosis. The eye-balls often roll upwards as the eyes are riosing. While in some cases this position of the eyeball is maintained, in others the eye ball resumes its materal position dispetly the eyes are closed. If this is not the case, the white seleratic only is visible when the lids are artificially raised. I have only been able to find the convergence of the pupils during hypnosis described by some observers in one case of hystero-epilepsy and in a few others of severe hysteriz. Ancho, an ophthalmologist, has recently described this convergence in the case of the so-called "sleep-dancer" Magdeleine as coused by a squirt in the right eye during hypnoris. Berel also affirms that convergence can occasionally be obtained by

As we have seen, the voluntary nuncles are entirely under the influence of external suggestion during hypotesis. A further possibility is, that a particular movement or state of costruction of the sinucles causes always be controlled as cases, and finally we have seen that in some cases muscular contraction can only be brought about with difficulty or not at

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all. One of their two functional absormalities of the mounts exists in all hyportic states. Though it is occasionally confined to inability to open the eyes, in other cases the

functions of other souscles of the body are affected.

The different phases result from various combinations of the above-mentioned abnormalities, and from their different localization in the marche. The various kinds of equilippy arise in this manners. Bernheim distinguishes several forms of this catalopsy, according to the facility with which the entaleptic position can be changed. Sometimes this is very easily done, sometimes it is more difficult, as in tonic containings; the Acadelian cares forms an intermediate stage. These different kinds of catalogsy are mattern of mining and suggestion (Berger). There has no very clearly area a typical Acadelian area is hypnosis, except when the training of the subject half been directed to that point. Nonse appears to have conceiled other constitutors regarding it.

One of the best known features in hypnosis is the rigidity of the whole healy. There is here trose contracture of numerous voluntary numbers, by means of which the head, neck, trusk, and legs become as still as a board. A well-known experiment, can be carried out in this state; the head can be placed on one chair and the fert on another, and the body will not double up. A heavy weight, that of a man, for example, may even be placed on the body without bending it. It is not associating after what I have unit of the effect of the memoric passes, that this stiffening should be more until induced by their means; it cannot always be induced by more verbal supposition. A command or sign of the experimenter generally

suffices to put an end to the rigidity.

We must now ask whether any further abnormalities appear in the voluntary muscles during hypnosis. Changes which are not supposed to be of a psychical nature have often been assumed; for example, the English committee mentioned on page 22 detected an increase in the motions made in smallowing. It is frequently maintained that reflex action is altered in hypnosis, and that reflexes appear which do not occur in normal conditions. Heidenhaim, Charcot, and Obernoiser are to be mentioned among those who first expressed this view, and later on Schaffer.

Cherrot based his classification of the hypnonic states upon the absention. of the referens. He distogratised a ground hypothesis and a fittill by/witting. The last he does not describe in details in the first, which is found in hyders-epilegey, he distinguishes three mages :- it. The estaleptic stage, which is produced by a sables had noter, or read's from the opening of life sortized's eyes, while he is in the influrgia stage; In this rage the position of the limbs is easily charged, while the hypothe's ages are upon. Every position which is given to the Leeler's materialized for some time, but is also easily changed by the capetimenter without mistance on the part of the subject; there is therefore no way like lexistry (Josephillar area). No sendos sefer, no account of mucular initibility. There is analysed, but it is abou punille to sunche a certain inflormes over the subject through sight, hearing, and the numerior since. 2. The leftergit they. It can be induced primarily by fixed attenues, or accombatly out of the estaleptic range by cloting the eyes. The parient is unconcerns and not expendible to esternal influences, and there a statemen. The hards are released and full by their was weight; the eyes are closed, the tending reflects increased. There is increased suitabling of the number, the annualed neuro monotor hoper excitability. These mercans are demonstrated by mechanical stimulation of the mannier, derves, or tending. For example, if the what roove is present, a contraction of all the number which it impelies follows, so that a characteristic posters of the Sugar symbic. This contraction is not brought about by darget irritation of the motor filtres, but in a reflex, the arminey there of the about some conveying the hydration to the central acrepat system, where it is converted into a mutor impulse. If a succisis unchantedly stimulated, it alone community. The same thing is entired by this us by local faceformer in mornal dates, which was shown by Lochesta. While at the estimation the contraction passes that occtractice—that is, becomes permisent - a cannalation of the field store only cause a simple contraction in the face, which soon covers. The molecus of the resulting medication is produced by sorring the aidaponistic mateins; thus, for enample, a contracture of the west is put an end to by earling the extension, the contracting of our sternockedonamed by simulating of the other. decording to Change, the restor regions of the peretric costes can be standard through the cratical by mates of the galvanic carrent, so that the muscles in custostion with them contrast. 3 The communicate range. In some persons it green primarily by marra of hard attention; a can be induced in all by friction of the recent of the head during the lethingic or catalogtic stages. The ever are closed or half almost. By morey of grade identifica of the skin the anticiping mucks can be per into right econosion, but not, insecur, by simulation of the rangles, torons, or tradess, as in the leaving stage. Also, the continence does not disrepose an stimulation of the artigoristic proteins as in that stage. The pusture of the limbs probability mornature is commission exact the bit so easily altered as in estallment a a postilia maintance appears as a finefactor corps. Chircost calls it the estalepted state. The same elimination of the thin which indused the consumers is enveloped to reasily storm. In summarindism many esternal inflactaces are possible by more of aggration, of which I shall speak later on in their proper workliniction's

With regard to these stages of Charcot, most investigation think that they are only an artificial product, the result of an unincentional training process. It is corrainly striking that since the Nancy school period out the many sources of error that should be avoided, the stages of Guarcot are less and less frequently observed. Wetterstrand sever found them at all among 3.350 different persons (Pathy). I also have never been able to find them, even in hypotro-epileptics, in spite of Richer's opinion that every one who experiments on such persons will obtain results identical with those of Charcot.

Even these nathons, who can the whole secret Cheren's mage, which there are many everytime. For instance, Demonspating and Magnes combined that the receptor it seems emercial excitability is by an axian combined to the lathager stage, has appears in all of them. They have the wave described critics excellation is which in quagrants, along them. They have themse described critics creating its mach in quagrants. Justify of the lathager and partly of the catalogue stages, show themselves. Justify the lathager and partly of the catalogue imput, show themselves. Justify a Character about the distinguished from the three others, both physically and mentally. Gilles the lathageries describes a shikarpa hands, in which there was no loss of consciousness. In any case, the sites of the stages has become some and more confused as attempt have been raise to include everything positive within them. Hence one include the stages, and when he could not find them exactly as Charact day, he believed himself obliged to add certain new characteristics to them.

It is perfectly certain that we cannot recognize Charcot's three stages as a general principle on which to base a classification of the various conditions met with in hypnosis. Even gramed that the stages do exist, it must be admitted that they are confined to a few cases of severe hysteria. Opinions also differ as to whether, in such cases, the stages may not be an artificial product. Certainly Raymond maintains that all three. stages were described by Despine as far back as 1840, under the names catalogue, neurosubations most and communications: served, and that it is therefore improbable that the conditions observed by Charcot in his investigations were merely artificial. products. Recently, too, for example, at the second International Congress of Hypnotists, 1990, -teveral investigators have admitted, with more or less reserve, the possibility of Charcot's stages presenting themselves in some cases of hysteria; and Micheline Stefanoniska has gone so far as to current the opinion, based on mamericus experiments, that the grands dyrano as undenstood by the Salphinbre investigators can be induced in frogs, in whose case there can be no

question of suggestion. In particular, M. Stefanowska thicks the last clearly established both the lethargic and catalogue

stages.

But even supposing we hold the opinion that Charcot's three stages were solely produced by artificial means, there stall constructs the question whether in hypnosis the muscles are responsive to a physical (not suggested) slimings, which would produce no effect as the user-hypnosis state. Heidenhain stated the same thing such surfer; he believed that a gentle stimulation carses the underlying muscles to contract, and that the contracture produced spreads in proportion to the strength of the samulation. In this manner Heidenhain considers the rigidity which is seen in hipporois, to be a reflex. Like Born and others, Heidenhain believed by had discovered new

celletes in the course of his experiments.

Without wishing to maintain that specific physical refleres do not occur during hipmosis, I certainly think that no definite proof of their existence has been brought forward. For instance, Lehman reports that Dr. Huber, who has submitted more than 6000 persons to hypothic treatment, has never observed anything comparable to hyper-excitability, unless he had suggested that phenomeron. Novadays, when we know that these phenomena can all be brought about by auggestion, the latter must first of all in excluded. The best way of nocomplishing this end is to establish a very strict supervision of the first experiment performed on a subject; for it cannot be avoided, that when the same experiments are repeated many times certain intimations-some remark or motion nade by the experimentar-should be given from which the subject draws conclusions as to what he is expected to do. We have to take into account the quick perception which a hyprotic possesses and his desire to carry out every stogestion made by the experimenter. Certainly, Chanco's pupil, Richer, maintained that in their experiments, which were varied a thousandfold, the results were always identical, and that imitation was excluded. But we may conclude from a unresent of Vigourous, who excludes the deltoid muscle from the law of neuro-nuncular activity, that the thing is not so plain. Gilles de la Touvette also states that the results were only attained after long previous experiment. But, however great may have been the tendency occasioned by the rise of the Nancy school to deny the occurrence of the physical reflexes mentioned above, defenders of those reflexes continue to crop up from time to time, and quite distinct from Charcot's own pupils.

Among their we must recise Observency, who describes the belowing experienced performed are kinesalfur." When I was on light hypnosis and the size of my hand on the sime side was sucked, I expected that the little Sagar would be heat; instead of that, to my simple, it was slidested. As a matter of fact, to search the firminal portion of the skin lay not the flasse, but the abductor digit minum, of which, in my halfdroping state, I had not thought." However tract this statement may be, I would not accept it as an argument against the suggestive origin of contamies. That Observator, after hyproxis was over, believed by had not thought of the abducter preven surving, for these might very writ hand how a deception of mireory. Even if we admit that this was not the same, Observations know the exact position of the muscle, although the fact never critic letts countements during hypnosis. I may late infer in the sale countingment which I shall have to speak of mean particularly interon. We thill then had that experiences that we have some good through, but which have assessment's become anotherious, may still infected our action. For the resum Obenimore's expressing is not an extraordinated

proof of his years.

Schaffer, alm, has attempted, or a very exhaustove week, to demonstrate the existence of physical sufferes in hypossis. He was able to procupe contractores by rather sensing alimals, by elimaticion and only of feath, but of the ear, and especially of the seriou. In multiteral strainfastes the that he has encluded suggestion. In Interest scientistians the contractions appeared on both miles. When one use was made monthstip, seriory street, on that side were toogerative. On the other hand, Schaffer qualit also postine contractions by suggesting any sensory impromion. The sime thing then happened as if the sensory strenges had reitly been applied. On the ground of this planersman, Schaffer concluded that the soften path is though the curried custon; put he slice may consider brench justified in admiring organism. Schaffer also points out that Lindenses and Hogyes have established the estatement of neuro manufalts and sense maintain by sec escirability under conditions in which suggestion was miduled. The more use of the turn "suggestion" is containly to pacef of the immunity of all these investigation. For evenil, motion happens, five objection is not juid to suggestion in a possible source of error, we have no right to minds accepting conjectively to toggetten; on the other hand. Schaller gives as no definite partel of the absence of suggestion in the production of the extleme in ignition.

There is another point which I many what discrete, and winch access to still upstend the recental weight of many of the phenomena. Schaller endowment is his work to weaken out of the argument frample beword by one against fee conception that the phenomena are motived by physical seem. Now, we are in the fourth experiment (p. pr) that during deep hypotomic the subject model only be admissed by one prince, the experiment with whose he was or raptively, in the phromagon. As we here are, the reperimentar about could influe community, attempts of

stimulation by other passess were amoraling. Charact's pupils also exection this phenomenon. They make that during the seminambatic stage only the low periods who are no neglect with the hymoptised subject out indicates the lister's mencion by simulating his skips. That the contractions should arise without participation of consciousness would be incomprehensible. Against this, Schaffer meets that in his experiments may one could induce the commenters. That would apparently tell in favour of the uphabilities of physical influence. In this we may train as follows:—All the cases in which contractine can only be todoped by the experimentar prove that mental influence is at much. It very for from follows that suggestion plays to part in all those rates in which, in aging of the support existing between subject and experimentar, other persons on sho induce constraints. Here, as is so bequestly the case, we have to deal with the fact that a hyporized subject may be trained to respond unconsciously—or, to expense a bester, independently—or, to expense a bester, independently—or centrals influences which may be accepted by all those present.

Schaffer having with particular acumes brought about a discussion of the question whether we have to do with suffex amon or suggestion, it is necessary, if we would avoid any misunderstanding, to point out that physiologists very often associate two sorts of reflexes—the physical and the mental.

In order to make this close I want my a few words about reflex action, We understand by reflex action of the searcles that action which is induced by excitation of a squarey nerve, addicat the encountries of the mill. When an issuer flas into the eye, the latter closes; this closing is refler because it is invalentarily. Let us take the following man :- I touch the eye of a invitor. At a the typ closes in consequence by reflex seeins, withink the participation of A's will. I now having my hand mus to the eye of another person, R.; long latter it is touched a clears, and does in against B.'s will, The closing of it,'s eye is also other action; the administration here affects the narrow of sight. And yet there is a fallerence between the twentyes, While in the case of A, no mental action is encountry to produce the reflex, In the case of E. it is otherwise. He shade his eye because he imagines it will be insuled - at tests, the in the general opinion. If I puts his own. finger near his eye it does not close, become this idea does not then arise. In any eric, a second action takes place in R., but not in A. On this arround me call the closing of R's eye a mental refers, and A's a pleasant one. The mental reflects the normally common; theoring at the which we of a ballet, language at the tagin of a shown, tickness predocal by a dis-grating small, are sweated suffered. The involverary concepts derive in caused by a secretarious of the cur, cot, or with of small, after the nineforms has been awaypered in a particular way by the consciousness,

The classification of the reflexes into physical and mental in met valueless for us; I think it better at present to keep to this classification, although it is only schematic, and although Lewes supposed a mental action to all reflexes. Gamey, Max Dentor, and Huckel have directed attention to the importance of merical reflexes for hypnams. Heidenham and Charcot desied any mental action in the contractums they induced; the Nancy school, on the contract, believes that it occurs, that the subject knows what is intended to result, but that his will in amable to prevent the contracture; this is called a suggestion, and is therefore only a kind of mental reflex. Consequently the question put forward above, whether Heidenham's and Charcot's contractures are reflexes, may be thus modified: Have we to do as these authors suppose with physical reflexes, or with mental ones?

The phenomena of echolalis invitative speech, destricted by Heidenham and Barger, belong to this accion. Berger step that hyperetics will step at excepting that is said before them. The photography were what is said in foreign languages is argented with wone reactions. Heidenham and Reggy believed that only portfaults trusts of the heidily authors the stomach or the moch are suitable for the production of this instantion by means of utionalstics. They came to this conduction became they were not as yet acquainted with the significance of suggestion. In occupy the hypothe offices what he believes he is intended to order. It is certain that some persons are able to perform good fettle in this way, imitating a tellurous unknown language quickly and consuctly, particularly after the

PECTURES PROPERTY.

Other reffecce, also, which are induced by tracking certain point of the cassions, the appearance of aphasis, or all restrictings to contractors in the arm or leg, should be understood in the same way. Statemann of the arm or leg, should be understood in the same way. Statemann affects that were made by Henheshairs, and have been repeated lately by Stira, Einet, and Péril. These list even believe that they can place single limbs in the assumability state by unusulating the parts of the head which correspond to the motor certain of the limbs concerned. They also refer to the parentlessy of Gall, and Chrimate aven whitee in study the physiology of the break in the same way (Dellami). But discribed waiter phenomena, which he called pheno-hypertic, and conjectured that there was a kind of refer atmates. By persons we a parties of the shell a nerve was standard which by refer action extinct a part of the limits, and by this means around feelings of heaved-sere, for evenyler by standaring another syst member nerve was excited, which by safer action produced an outpression of picty, etc.

Hypensis of one side (hemi-hypensis) may also be explained as a phenomenon of suggestion. Braid thought that by blowing on one age the corresponding side could be astakened. Descourtis, Charcot, Damontpatier, Bérillon, Lépine, Strohl, as well as Grimmer, Heidenhain, and Berger, who were under Kayser's influence, carried on these experiments in various modified forms; Berger later on charged his views. Though these authors regarded henri-hypnosis as a physiological condition induced by the closing of one eye or by friction of one half of the scalp, their statements do not new prove their point. We know that we can produce all these states by mental influence, and suggestion must be excluded before the experiments can be comidered conclusive. ments made by the various authors are so contradictors on this point that they only increase one's doubts. stroking the right side of the head was approped to make the left half of the body bypostic; sometimes the result followed on the right side. The main point is that the subject shall anter what is intended to happen to him, and what effect is expected from the processes. Hemi-hypnosis has even been atilized for drawing such far-reacting conclusions as that the two cerebral homespheres act independently of each other. Grasset has secently assumed this view, and considers the assumption justified even if the hemi-hypnesis is attributed to suggestion. I do not deny the relative independence of the functions of the two homisphenes; but hemi-hypnosis proves nothing that is not equally well descentrated by every granist who plays somewhat differently with his right hand than with his left, or by any individual who moves his right ann but keeps his left still, or tosus his right leg about while the left is allowed to remain at rest. I think it is better to have nothing to do with this seet of physiology.

It is evident, from the preceding considerations, that in hypnosis the influence of suggested ideas on the robustary einstels is very extensive. Let us now see whether certain other peculiarities in the functions of the musica, due either to suggestion or some other cause, appear in hypnosis.

The cataloptic posture of the limbs is sometimes maintained for a very long time, even for several bours. One person remained for severates hours in a cataloptic posture. Beggy mentions the case of a young girl who maintained this condition without perceptible charge for seven hours, during which she was continually watched. In these cases the langue and point which ordinately follow on great measured reservoir do not greate. Great fatigue rarely results even when the same position is maintained for so long as an hour; tall, this is not necessarily the rule. Certain differences which limet and Féré think they have found between the curve-tracings in suggested

catalogue and those obtained in the simulated form will be dealt with by me later on, in the section on Superlation.

Dynamometric investigations-that it, measurements of the muscular force—baye often been undertaken dating hypronis. I meself have made a number of such experiments, which for the most part agreed with the sessits of Braunia. The most important part appears to me to be that in most cases the nuncular force is benefited at hypnosia. I have made these investigafound an increase. However, there are suriations, and I have oppositionally seen the strength of one hand increase while that of the other dimminhed. I have also obtained different results at different times with the same person. When there were such variations they were always of small amount, and they are the less important because all demonometrical investigations suffer from certain sources of error. In opposition to the configures which have been drawn from the investigations fest detailed. Luss points out that in hypoods the nuncular Torce sometimes increases simultaneously with the loss of separately-the increase being at times two-fold. But it would be far-fetched to conclude from this that the increase in the muscular force is dependent on the disturbance in the sessibility. Carpenter byports that the muscular force may often be increased by suggestion. One of Braid's patients, who had been so weak for years that he could not lift even a twenty-pound weight, was enabled, by means of suggestion, to pick up a twenty-five pound weight with his little finger and swing it easily round his head. On another occasion the same subject raised a felty-pound weight to his knee on the Init joint of his fore-finger (Bramwell).

Let me take this opportunity of discussing the numerical nears. This sense intrinces us as to the position and morements of our limits. Its existence is consequently necessary for the performance of any meful function. These could be no artistic skill without the inuscular sense. Braid relates that a hypnotized girl once initiated some of the songs of the famous Jerny Lind perfectly, which she was quite incapable of daing in the waking state. Bend attributes this four to the delicacy of hearing and of the muscular sense in the hypnotic state. Some cases of instative speech (echolalia), which can be collivated to a high degree of perfection, would belong here. But whether the delicacy of the muscular sense is increased in

byposis without suggestion is more than doubtful. Dollker, indeed, holds the contrary vice. He esperimented on the subject's rapability of denoting the position of his ithe vabject's) limbs, and found the answers inexact or confused unless the hypnotic was given time for reflection. Dollices found that a thort paose for reflection sufficed to produce the right answer. Those alterations in the handwriting which Didlken and others have noticed in hypnonis are perhaps referable to a diminution in the muscular sense. Anyway, the americasense can be influenced by hypnesis. It is interesting to learn that absence of the muscular sense has oben been observed in cases of total atorithmia of one arm, although volumery mostment of the limb in question has been retained. We have here a condition like that met with it focomotor attany. Sufferers from the latter disease can perform any operation, such as writing, correctly, provided their eyes remain open, but can only do such actions imperfectly directly their eyes are closed (William James and Camochan).

The muscular sense enables us to estimate the weight of any object placed in our band, because we adjust the activity of the muscles called into play to the weight of the object dealt with. Beamwell and Alcock made testion experiments for the purpose of testing the muscular tests in hypomis. They used little boxes of different weight and experimented for the purpose of ascertaining if hypomic suggestion enabled a subject to detect minimar differences in weight than he could in the waking state. The experiments seemed to point to such a possibility; but Bramwell expresses no definite opinion on the question, and, moreover, does not appear to consider the

experiments conclusive.

We may here consider the electric ascriminity of the muscles and betyes, to which airle attention has hislanto been paid. Morts Researchal lands an increase of electric sensitility in hypnosis. Tereg also found changes in one case, which, however, was investigated without the palvanometer; and Manna has done the same in the case of a person in the waking state, who, however, had often been hypnomized. I, for my part, like Heidenhain, Berger, and Rieger, have been urable to discover anything of importance in this direction. I have tried more than a hundred different experiments without finding a perceptible difference on this point between the hypnoxic and waking states. I made my experiments with the galvanic

and firadic current; I used Hisselmann's galvanometer, and made most of the experiments on the ulnar nerve just above the elbow. I have already said that the electric excitability is decreased in cornain suggested paralyses. I may here just mention that according to Morarili and Mendelsohn the muscles contract more quickly from stimulation in hypotesis than in the waking state.

I have thoroughly discussed above the question whether new reflexes appear in hypnosis, and it consequently now remains for in to consider how the ordinary reflexes behave in that state. I have already spoken of the tendon reflexes, which are said to be increased in the lethargic stage of Charcot, and in certain paralyses by suggestion. Berger has also observed an increase of the patellar reflex. On the other band, Vogt found, in his investigations on the influence of cortain mental conditions on the knee-jerk and muscular forms, that the knee-jerk lost in intensity. Vogt, experimented on his wife, Firm Cécile Vogt. In these investigations it was found that the susualir more was diminished as well as the kneeserk, and Voet considers that his researches have thoroughly demonstrated the dependence of the strength of the knee-jerk on that of the associate tonus. Like Berger, I have often noticed charges in the knee-jerk. But it seems that the type of hypnosis and the kind of suggestion play a great part in this respect. We are then enabled to explain an increase of tendon reflexes in cases of suggested paralysis and when the muncles are completely related, and a decrease of those reflexes in cataloptic postures. Of course this increase must not be regarded as a prenomenon possilar to hypnosis, since apart from begins in the tenden reflexes are more perceptible when the nuncles are related than when they are contrarted.

With regard to the pupil of the eye, first has already mentioned a difference between its states in hypersis and in sleep. In sleep there is a contraction of the pupil, but Braid, and later on Heidenham, often found it dilated in hypersis. I have never observed the latter phenomenon except when I have employed the method of fixed attention; at other times I have more often found contraction of the pupil. I can contain Braid's assertion that oscillations of the pupil appear not infrequently in frustion; contraction and dilatation have allertime rapidly. Spann of accommodation is also often

mentioned (Heidanhain, Cohn, Rampt). The assention that the pupil reflexes are abnormal in hypnous is often net with (Luys, Barelin. It is said that a ray of light down not instantibly cause a contraction of the pupil during hypnous. I have never observed a complete absence of the reflex, but I have often remarked very slight reaction when I have used the method of fixed attention for a considerable length of time to induce hypnous. Whether this was an effect of fixation or of the hypnosis is floribital; I am inclined to receiver the prolonged fixation as the cause. Sprosse noticed dilutation of the pupils in his two subjects on the appearance of hypnosis, followed by diminished contraction during the state.

We shall see later on that the reflexes can be affected by the action of suggestion on sense-perception. For example, the conjunction of the eye can be rendered insensitive by suggestion, so that it may be touched without producing the corre-

sponding reflex.

Up to this paint we have Bardly studied any but these changes which appear in the soluntary motor assess during hypnosis. The hypnoses of the first group (p. 59) are characterized by these changes, which, between, are invariably found in the second group also. The hypothic states lickinging to this group are, however, distinguished by an increase of susceptibility to suggestion; the functions of the argues of omas in particular are influenced by th. The statements of different authors as to how those functions are performed in hypotosis without suggestion are very contradictory. Some investigators (Beausis, Lajoie, David) assume that in hypnosis without suggestion seme perception does not deviate from the narmal; but others hold the apprian that hypnosis alone-Le, without suggestion-exerts as influence on the organs of orner. But the views of the various authors differ very considerably on the question of details. Some will not for one rapperent admit that any hard and fast rules can be hid down. Ochoronics, for instance, opines that any kind of combination between inhibition and increase, may take place, and that, in this respect, there are just as many forms of hyprosis as of unbjects hypnotised. Others, again, think they are in a position to set forth certain definite hwy on the changes in same perception. Braid distinguishes two grades in hypnosis. In use an incremed activity of sense is allown, except in the

case of the sense of eight, and in the other a diminution of it. It is evident that Braid not only found that sense-perception in hypronia ratind according to the depth of the hyprotts, but that he made a distinction in this respect butween the various organs of sense, contrasting that of night with the others. We also find analogous stews expressed by more second investigators, although their statements as to the individual organs of sense differ essentially from Braid's. Liebquit found charges in the functions of the organs of some during deep hypnoxia. According to him, the senses of sight and taste diminish first, then the same of small, and finally bearing and feeling disappear. But when the method of fixed attention is used, eight in the last to go. Croop considers that the extent of the changes under discussion is determined by the depth of the hypnosis; he, moreover, made inquiries of different investigators as to the condition of sense-perception, mental power, and more particularly memory, in the subjects whom they had hypoteized, and came to the conclusion that we may lay down the general rule-subject, of course, to some exceptions-that the deeper the hypnosis, the greater the diminution in the semibility of the skin and in the functions of the other organs of sense. Crocq makes a general exception in the case of the sense of hearing, because the experimenter is in werhal communication with the subject, and involuntarily suggests to the latter that he must continue to hear. De Jong also thinks that the state of the seme-perceptions depends on the depth of the hypnosis, and that one is justified in saying that as a rule these perceptions are diminished in the somnambalic stude.

This branch of the question has been signously investigated by Dolllors, who has published his results in a valuable work. He was unable to detect any quite definite and regular sequence of the phenomena as far as the individual organs of sense are concerned. The individuality of the subject, and the method of hypnosis sequenced, each plays a part in this respect. The percaptive faculty of the visual organ is usually the first function diminished, a result which is certainly brought about by hypnotic suggestion. Suggestion of this nature can only very rarely be availed. Diffuse found that by excluding any possible action of verhal suggestion on the other senses that of touch remained longest intact, though in some cases the same held good for the sense of heating. Diffuen did not fail to perceive a dimination of the perceptive faculty in any of his cases, not even in his own personal experience of being hyperceised for the first time, when he only fell into a someolost visite. "First of all the various articles in the room became less distinct, their outlines less clearly defined; then I became indifferent to the 'passes,' which I had found very unpleasant at the commencement of the experiment. At about the same time I became no larger able to detect the small of a modicament which permented the room. Finally the noise in the street appeared less land," Dollken also investigated the phenomena of deep hyprings; but he was unable to discount any has connecting the depth of the hypnosis with any particular phenomenon produced. The only thing he could catalifish was that the deeper the hypnosis in one and the same case, the greater also the diminution in the perceptive faculty. This condition, however, often emproved if the experiments were continued for some time. Diffeen believes that he excluded all disturbing influences of the nature of suggestion. With regard to the eye, all degrees of ambiyopia were met with, even to drop amagusis. In one case he found the vision of on one occasion, but it on another, whereas it was normally 2. In another case he found that in several experiments vision was first of #s and then \$ With regard to the seme of bearing, as the hypnosis proceeds the noises in the atreet appear more distant and at last insudible, then one socieds in the room die away-for example, the ticking of the Finally, the experimenter's voice becomes less auditée to the subject, even if he raises his voice. More detailed insustigation showed that whispering which could be heard at a distance of 5 metres in the non-hypnosic state, was standible at 3 metres to less. The ticking of a watch, which can normally be heard at 1.8 metros, was mandible when placed close to the subject's ear. Dollken also tested the sense of smell, using for that purpose scup, other, soies, cloves, and vinlets. The more frequent phenemenon here noticed was tailure to distingrish attenuately between the perfumes of the flowers. In some mans no notice whatever was taken of the proximity of the object. Dulken did not examine the series of true, but his investigations of that of louch were very thorough. In the first place, he found a diminution just to the extent that greater promuse is required to produce the sensation of touch in hypnosis thin in the waking state. This implies a distingtion in the sense of personne. The power of localization is also less than in the walking state. If a patient was asked to state at coce the spot on which he was touched, the error was from s to 5 cm more than under normal conditions; for example, 5 cm, on the foreign and 3 cm, on the back of the hand of one subject. While the error in the case of the cheek was less than a cm, under normal conditions, it incremed to 2-3 cm, when the subject was hypothized. Certainly Dollien thinks that the source of ever is increased in hypnotics, because hypnosis renders their movements somewhat slower. The "company out" also showed viriation. The two points of a company were recognized as two tactual improvious on the back of the band at 45 min. (normal, 30-15 mm); on the forearm, 50 mm (nomeal, 16-39 mm.); on the chin, 15 mm. (normal, 3-11 mm.); on the check, 15 mm. (normal, 10 13 mm.). After a series of experiments the above values underwent a thange and rapidly approached the normal. Deliken was usable to discover any custofial difference between the impressions of "pointed" and "birnt," but he certainly occasionally found a decrease in the proception of temperature.

Differences of opinion also have been expressed at to whether the sensation of pain can diminish, or disappear, without suggestion. Berger found an increased tenshiveness to pain in some cases. Still, in the present day, we are certainly justified in assuming that the Breslan investigator could not possibly have known at the time he made his experiments how carefully the influence of suggestion must be exciteded. Dollken never observed a complete analysisk without suggestion, but he assuredly did see some cases in which the prick of a needle other produced no pain, or the

sensitiveness to pain was diminished.

Up to this point I have discussed the condition of the sense perceptions when the influence of suggestion is racladed, and I have already mentioned that some investigators only among charges in sense-supression in those cases or which suggestion plays a part. On the other hand, as I pointed out very many years ago, we possess many data which show that where variations in sense-perception occur during hypnosis, sufficient attention is not paid to the difference in the way the hypnotic betaves in respect to different objects and people. For example, it often happens that the hypnotic hears the voice, and feels the touck, of the person who has out him to

eleep, but not of any one cise. Manut has observed and this observation has been made by many other investigators—that if any one runs a modificance a hypotocic the latter first of all finely it, but ceases to do so as soon as it is suggested to him that the person who pricked him has gone away. This selective factor has great inflaence on the perceptions of a hypnotic Certainly it may be objected that this selective factor is only a product of suggestion. We shall come across it again, and in its most compleyous form, when dealing with support. In fact, we should here bear in mind that auggestion, with its many forms, may are without our intending it to do so, or electring its effects. We must also take loss consideration the great part played by auto-suggestion; and we must bear family to mind, that it is just in auto-suggestion that many factors wort their influence when the subject is on the borderland of comcloument, to that the hypnotic does not always clearly understand the connection between the idea produced by suggestion and the way in which suggestion itself works. But even if we admit this, we must bear in mind that we are not justified in attempting to explain all the processes concamed by merely using the word "suggestion"; we should then have to attribute to that word a wider meeting than we eyer think of doing in the present day. It is quite possible that when any one is in a state of deep hypotan, analysis or some other dimination of seme-perception may occur spontineomly, without the influence of suggestion. This symptom would then have to be considered an essential factor in hypnosis, and not the result of a specially suggested idea. To penist in calling this a case of suggestion because the hypnoxis was produced by suggestion, would be to attribute to the word suggestion a meaning far beyond permissible limits. In what we call suggestion there must be at least a direct connection between the effect produced, and the idea of that effect. When this connection is wanting we are not justified in ancelling other mental connections assortation, for animple-to hypnosis, quite apart from the fact that these may possibly be processes of a purely physiological nature which lead to a decrease of same-proception without the intervention of any mental activity being demonstrable. At all eyents, I consider that no proof has yet been adduced to show that all the diminutions of sense-perception met with inhyproxis are due to suggestion, as defined by me on page 66.

No matter what opinion we may hold on the origin of thour dimensions of sense-perception which we have described up to this point, there can be no doubt that many changes of sense-perception can be brought about by suggestion in hypnosis Analgenia, for example, often exists to such a degree that the severest surgical operations can be performed during the state. It is also known that needles may be run into some persons during hypotons, without their feeling the pain, though they feel the touch. And yet a complete nealgons is rure in hypotosis. There is an immense difference between pecking a person with a modile and using the furadic brush. The pain caused by the use of the latter is so great, especially when the current is sufficiently strong, that very few persons in hypotosis can embere it, even when they show no pain on being pricked with a needle. At all events, decreased sensitiveness to pain can often be induced by suggestion, aithough an absolute, complete analgeria is rarely attuined by that menns. Many cases described at completely analysis.

—he example, those of Tamiserial and Seppilli—proved on closer examination not to be so, as a strong faratic current finally produced pain. I will just semark that all kinds of pain can be induced by suggestion—the pain caused by a needle, as well as that caused by a knife or lurs. The face of the subject expresses pain in such a manner, that an inpartial person can hardly decide whether the pain is real eesuggested.

Tactual sensibility, the sense of temperature, etc., can also be assesshedized by suggestion as well as the sense of pain. The mucous membranes, too, can be rendered intermible. The funes of automora in the nose, and tickling the thesat, are not felt; the conjunctive can be touched without producing the corresponding reflex; even the resease may become inscensive, other spontaneously to by suggestion (Brannelli, Preyer quotes the cyaical expension of an American physician, I info, who thrust a needle through the corner of a hypnotic whom he suspected of simulation, in order to test its intermibility. But in my experience these last marrianced phenomena are uncommon. When this amenthesis of the conjunctive and corner status the eye no longer closes on reflex strangers, but this is a cornequence of the amenthrula, and not an independent phenomenon (Gamery).

Attention must be drawn to another phonomeron, which,

however, cannot be straighteny aucribed to suggestion. Dölfken, like Bechterey, Lannegrace and others, has observed that when there is a general decrease in the semibility of the skin, the function of the eye and say are also inquired. But he never found the epiposite to be the case. Dollken, as well as Schaffer, further found that when one side of the hody was made anaesthetic by suggestion all the organs of sense were affected; there were also motor disturbances. For example, in such cases of hemistanetheds by suggestion he observed the following changes on the anasthetized side: - Constion of the functions of the senses of pair, touch, and temperature; incapacity for carrying our delicate movements with the band, extending in some cases to loss of movement of the upper extremity, also foremotor discurbances and loss of the power to walk. The muscular space was nil, the field of vision apparently concernically narrowed, the hearing less acute, the sense of smell and the ususcular sense appreciably diminished; finally there was decrease, and in one case cessation, of the patellar relias, even when the mindes were completely relaxed. Further, amountain induced by anggestion was invariably accompanied by a decrease of the functions of the orners of smell and bearing-a fact already autablished by Schaffer. Amblyopia, hypourns, and slight hyposthesia were observed in cases of dealisess brought about by suggestion. Since Dillken excluded the action of suggestion in the production of these secondary symptoms, they are very remarkable as acquela of primary engaction. If we compare these secondary symptoms with the loss of semution which directly follows the loss of motor power in paralysis by suggestion (p. 70), the similarity of the two phenomena strikes one at once. In such cases as show with which we have just been dealing, it is quite possible that processes may be at work which we are not justified in ascribing to suggestion, even if there naturally remain a vaspicion that the secondary symptoms may have been induced by ideas unintentionally suggested.

I have shown above that perceptions of each same by studif can be prevented by suggestion; but hyperautherize of the organs of sense likewise must in hypothia. Whether those come on from suggestion, or in other ways, is, as mentioned above, not always to be distinguished exactly. Although

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they are not on the whole very common, I shall here add some of these very remarkable cases. It is exactly these sarer cases which deserve the most cavelal consideration, for they often offer as a key to a natural explanation of these mysterious phanouscus, such as transposition of the semes;

and clairvayance. An increased sensitiveness to touch has often been observed. The two points of a compass are used for menoming the least distance between them at which they may be felt as two separate points. In this way it has been found that the points can be distinguished at a less distance in hypnosis than in the normal state (Berger). I have made a series of experjuants on this rout and can confirm Berger's statementsat least, I found that suggestion caused a considerable increase of sensitiveness. Brannvell and Alcock, who experimented together, obtained similar results. For example, without suggestion the two points were distinguished on the hand at one inch? distance; under the influence of suggestion the distance was sedared to a quarter of an inch. Without suggestion the distance on the left eyebrow was one inch; with suggestion, half an inch. I have also experimented on pathological subjects. In cases of locomptor ataxy, with profound angesthesia, increased sendshiveness has been found when the patients were noder the informer of engoystice; the state may continue some time post-hypothically. In one case of locomotor stacy. I found that, before hypnosis, the two points were distinguished at a distance of 6.1 cm. During bypnoses the arparata points were perceived at 4.0 cm. distance, and after waking even at g.t cm. I have recently reported the experiments, always with the same results. Leenenfeld protests that these experiments prove nothing, because variations of sensitiveness occur in cases of locomotor stary, without suggestion being called into play. This is a point which I have certainly not disputed, but it does not tell against the results of my experiments. For, if immediately after suggestion there is an increase of sensitiveness which was not demonstrable before, and which also disappears after the lapse of a certain amount of time, and if the same phenomenon is frequently observed in the same subject, then we are certainly justified in

assuming that apposition has exerted its influence in such a

<sup>1</sup> fact = 2 54 cm.

The senses of pressure and temperature sometimes become much more delicate. The hypnotic recognities things at a certain distance from the skin, and this simply by the increase and decrease of temperature (Braid). He walks about the recom with handaged open or in absolute darkness without striking against anything, because he recognities objects by the resistance of the air and by the alteration of temperature (Braid, Poissult, Discovincki). D'Abundo produced enlarge-

ment of the field of vision by sucception.

Bergaon has described one of the most remarkable cases of increased power of vision. This particular case has been cited as a proof of expensement thought-transference, but Bergion arcribes the result to hypermathesia of the eye. In this case the hypnotic was able to read letters in a book which were 3 mm, high; but the reading was made possible by a reflected image of these letters in the corner of the experimenter. Accreding to calculation, the reflected image could only have been o. 1 tom. (+), inch high. The same person was able without using the microscope, to see and draw the cells in a referescopical section, which were only 0.00 mm. in dismeter, Sauvaire, after some not quite irrepreachable experiments, apposed the existence of such a hypermethesia of sight, that a hypnotic recognized non-transparent playing-raeds by the rays of light passing through them. A case of Taguet's, in which an ordinary piece of cardboard was used as a mirror, is said to have shown quite as strong a hyperauthesia. All objects which were held so that the reflected mys from the card fell on the subject's eye were clearly recognized. A great increase of the sense of smell was also noticed in the case in question. A visiting-rard was torn into pieces, which pieces were professedly found purely by the sense of smell; pieces belonging to mother eard were rejected. The subject gave gloves, keys, and pieces of money to the persons to whom they belonged, guided only by smell. Hypercettlesia of smell his often been noted in other cases. Carperson states that a hypnotic found the owner of a particular glove among sixty other persons. Survaire relates another such case, in which a hyperotic, after smelling the hands of eight persons, gave to each his own handkerchief, although every effort was made to lead how astrop. Braid and the older measurersts selate many such phenomena. Beald describes one case in which the subject on each occasion found the owner of some

gloves among a number of other people; when his nose was stepped up the experiments failed. This delicacy of the different organs of sense, particularly of the sense of smell, is well known to be normal in many animals; in dogs, for example, which recognise their masters by scent. Hyprotic experiments teach ta that this kcenters of scent can be attained by human beings in some circumstances.

I will take this opportunity of quoting an experiment which is often repeated and is prough considered as a proof of incomed forcemen of the senses. Let us take a pack of early, which naturally must have lucky of the tune pattern, so that to all appearance one cannot be distinguished from the other. Let ut element a qual-offer now of hearts, for sumplehold it with its lack to the calquet and groups by suggestion the idea of a particular photograph on it—his core, let us say. Let us shalle the curlis including, of course, that with the approach photograph on it, and request the hypothic to find the photograph, without having allowed him to use the here of the cards. He will often find the night one, although the backs use all ables. The experiment can be repeated with visiting cards. to with theets of paper, if the selected one is marked, unknown to the bypassic. This experiment makes a greater impression on the inexpedienced. than it is entitled to a for most people are able to repeat the experiment without hypoxis, and hypermithesia is not generally a condition for its merces. If the backs of these cards and papers are carefully examined, differences which may easily be discerted will be discovered. The cuperiment has no bearing on the question of simulation. Naturally, I do not control that a hyperatic cannot find a puper in such a case better than a waking man. I only wish to point out that although this experiment is often used to deministrate the presence of hypersystemic, the letter is not penestly accessary for its success. I have seen men of science show autoridiment when a hypnotic distinguished apparently identical shoets of races. They dot not understand that there were expected definences in the speciment is to be applicated than a The minute but corognizable differences (fww/r str ref/rs) presented to the hypnotic at the manuscr when the idea of the photograph was suggested to him, result the sugcould image directly be area there again. The points are so closely associated with the issues that they madily call it up. Binet and Pene have rightly pointed out that the image only occurs when the joints do rapire are resalted to the memory a they must fast be seen. Consequently, if the paper is held at a distance from the subject's eyes, the image will not be recognized, for the points de reférence not malde.

Some of Bract and Fried's experiments are interming. They have control photographic impossions to be unafe of white papers on which a posterior had been created by means of suggestion. It was shown that the hyperitis always took the copies for the suggest, because the photographed point to reploy around the same image in his imagination. Junious should be supported the image on his imagination. Junious with the finger on a short of white paper, and if it is taggested that the "d" is stall, the subject sees the "d.". If the paper is turned update down he sees "p."

and in the looking glass "q." This is because certain points on the paper were remembered by the indigen, and when the paper was glaced in different positions the points agreemed in different positions the points agreemed in different positions also.

In addition to increase and decrease of sense-perception, it is possible to induce all kinds of seme delusions. The images postlaced are so remarkable that any one who sees them for the fest time is justified in doubting whether the phenomena are real or not. We have accuromed ourselves to depend so completely on our organs of seme, to think them such trust worths witnesses in all cases, that we are astonished to find that a word suffices to place a hypnotic among untilly different surroundings.

Sense-delaston are divided into halfurnismum and illusions. The first is the preception of an object whose these is really mediagy the second is the later interpretation of an existing external object. If, for example, a took is taken for a city, or a linew on the table for the firing of a cancen, we safe of an illustrate but if a cat is toom where there is nothing, we talk it a halfurination. We have that to do with a halfurination when we external object causes a perception by means of accordance. A chair in which a particular poseus has often un may by association call up as issuage of that person; this is a halfurination called up by an accordance object.

We observe remerous halfacinations and illusions in hypomis. We have seen in Case IV. (p. 35) that it suffices to assert that a dog is present, and a dog will apparently be seen by the hypnotic. A handkerchief was in this case taken for a dog, consequently this was an illusion. An illusion is more easily induced than a haltacination; in the absence of an naternal object, such as the handkerchief, the suggestion very often fails. When I do not offer some such object the hypnotic often finds it for himself. Hallucinations of night are more easily caused when the eyes are closed; the subjects then see objects and persons with their eyes shut, as in dreams. They think at the same time that their eyes are open, just as we are enawated in dreams that our eyes are shut. If we wish to cause a delission of the sense of sight at the moment of opening the eyes, it is necessary to make the suggestion quickly, lest the act of opining the eyes should awaken the subject. I advise the use of fixed attention while the suggestion is being made (of Esp. IV., p. 35), so that the patient may not awaken hiraself by looking about. The other organs of sense may also be deleded. I knock on the table and give the idea that carmon are being fired; I blow with the bellows and make the suggestion that an engine is straming up. A bullnomation of hearing something—e.g., the piane, is induced without the aid of any external somulas. In the same way smell, tinte, and touch may be deceived. It is well known that hyperotics will drink water or even ink for write, will eat outons for posts, will smell ammonia for Eau-de-Cologue, etc. In these cases the expression of the lace induced by the suggested perception corresponds so perfectly to it that a better effect would scarcely be penduced if the real article were used. Tell a person he has taken snot, he success. All varieties of the acrases of torsels, of pressure, of temperature, of pain can be influenced. I tell a person that he is standing on ice. He feels cold at unue. He trembles, his teeth chatter, he wrops himself in his cost. Even "goose-kin" can be produced by the auggestion of a cold list (Kraft-Elsing). In the manner, itching and so forth can be induced. I say to a gentlemus, "To morrow at three o'clock your forehead will itch." The post-hypnotic suggestion proves true; the forehead itches so much that the subject caba it continually. I find that the senses of taste and touch are more easily influenced than the others. The suggestion of a bitter taste, to of increased sensitiveness to temperature on the part of the skin, takes effect much sooner than the suggestion of a delusion of sight or huming. Certainly we do know that even without hypnosis the senses of taste and temperature are more readily affected by suggestion than those of sight and hearing. Similarly, delutions of the senses of taste and temperature appear in the first stage of loopoosis (just as they do in the waking statu), wherem consylmous delusions of sight and hearing are only observed in deep hypotesis. Moreover, it sometimes happens, especially in cases of light hypotosis, that a subject taxors the bitterness or feels the warmth suggested, although he is perfectly aware of the delucion. On one occasion a gentleman said to me: " I know there is nothing hitter in my mouth, and yet I have a bitter taste in it."

Some delusions can be suggested in various ways. We told a subject that he sees a bird, and he does. We can suggest the same thing by posture—for example, by pretending to hold a find in the hand—porticularly after the subject has received some hypnotic training. The chief point in that the subject should indicated what is intended by the gesture.

Naterally, several organs can be influenced by suggestion at the same time. I tell some our, "Here is a rose"; at once he not only sees, but feels and smells the rose. I pretend to give amother subject a divers opaters; he care them without it being necessary for me to say a word. The succession here affects sight, feeling, and rade at the easts time. In many cases the sauscular sense is influenced in a striking manner by then suggestions. I give a subject a glass of wine to drunk; he Lifts the portended glass to his ligh, and leaves a space between hard and mouth as he would if he held a real glass. I am not obliged to define the definion for each separate seems; the subject does that spontaneously for himosif. The subject in this way completes most suggestions by a process resembling the indirect apprecion described on page 67. The results of the external suggestion mitually depend on the character of the subject. I remember a case of chronic alcoholism being! brought to see for treatment by suggestion. The patient haff born accustomed by consume enormous quantities of alcuboldaily. On the first few occasions that I bepostled him, he made frantic efforts to drink any glass of wins I suggested. In the course of time, however, I not only succeeded in making him a total abstainer, but even crescod in him such an aversion to alceholic drinks that his friends could not het laugh at his spaint behaviour. The change was also very noticeable during hypertois. At first he drank every glass of wine suggested with avidity, but later on he would push the imaginary glass of wine good with a gesture of disgust, sometimes even attempting to dash it to the ground.

Besides which, the deception, if it is thorough, is clearly reflected in the subject's expression and gentures. No gost-mand could wear a more delighted expression over stone favourite flish than does a subject over a suggested delicary. The fear depicted on the face of a subject when he believes he is about to be attacked by a tiger is most impressive. A subject will drink several glasses of wine by suggestion, will become red in the face, and then complain of his head. I give a piece of cork to a subject for an omion; he smells it

and his eyes fill with tears.

By means of suggestion, we can place a subject in any simulation we please, and from his believiour draw conclusions as so what his conduct would be under analogous circumstances, and also as to his character (Morselli). But it is

necessary to exercise great eaction in drawing such condusions, since the subject nearly always has some dim consciousness of his rest surroundings, however completely by may seem to be transported into the imaginary ones.

Some nations (Demonspolities, Reviden) have particularly directed artending to the suggestions which take effect on one aids of the hady only. For example, we can count a high to be seen on the right side, a dog on the left; but this appears to be only a metter of suggestion and Indianage. The nate mechanism by Magain is domacted with this: a person affected by weak sight of the left cry, of fosterioral origin, believed thus be now with the sight operatings which he ready now with the left, and so thought they were as his right side when they were really on his left (allocking).

In contrast with the delucions of sense hitherto described, which are sometimes called positive, there are also negative definition of sense. The older meamerists (Deleute, Bertrand, Charpiguon) published many observations of them. When the delesson is positive the hypothic believes he sacs what does not exist; when it is negative be fails to recognize the presence of an object really placed before him. For example, Mr. X. is in hypnosis. Two other persons are present besides myself. I tell him: "From this moment you will only be able to see me; you can no longer see the other men, though they are still here." The experiment is successful; X. replies to every question addressed to him by these gentlemen, and can feel them, but he cannot see them. This is a negative ballucingtion of sight only. But a negative hallarination of several names can be induced as readily as a positive one. I my to X.: "The two men have gone away; you and I are now alone." From the moment X, pother sees nor hears them, nor perceives them by means of any sense. When I ask him who is in the spons he replies, "Only you and I." The whole or part of any object or person can be made invisible in the same way. We can cause people to appear headless and anniess, or make their disappear by patting on a particular hal, as in the etery of the Magic Cap. The situation may be varied in any way we please. Force has pointed out that the intane often have these negative full remainers. He has also shown that hypnotics complete, and even extend, negative hallocinations: Thus, I say to X., while A. it sitting on a chair: "A. has gone away; there is nobody on that chair." X. examines the clasic, and as he feels something there, he imagines that a shawl has

been laid upon it. We see here how a suggested negative hillocination gradually passes into an illusion, through the auto-suggestion of the hypnotic; this is very common. To be exact, we can regard every illusion as the arm of a positive and a segurive hallacination, as in each illusion something present is not perceived and something not present is perceived.

Further, it is also possible to prevent recognition of certain colours, and to induce colour-bindness by suggestion. But we have here only to do with a defective perception of colours, and not with an alteration of the stimulus affecting the eye; the disturbance in purely mercal (Schirmer). Color's assertion that, on the other hand, colour-bindness sometimes disappuars in hyperosis has been contested by Konightofer. At all events, this could only be a hysterical disturbance of the sense of colour, and not a disturbance founded on peripheral alterations.

An entire countion of the functions of any sense organ can be induced in the same way as a negative hallucination. "You can no longer hear," "You are dead," or "You are blind": these words suffice to depoire the hypototic of the corresponding sense-perceptions. Not only sloes he ceam to recognize any particular object, but the sense organ affected is insusceptible to anything. A command suffices to restore the functions (sight, hearing, etc.). It is certain that the blindness and deafters induced in this way are of a mental nature, for the corresponding organ of sense performs its functions, though the improvision do not much the consciousness. In the same way the night of one eye can be prevented, though the other can see as usual; a one-sided assumous can be created (Borel), or even hemistopsis (Willy).

Common sensation is influenced in hypersis in the same way as the functions of the organs of sense, though it is a moot point whether disturbances occur without suggestion. It cannot be doubted that the excitement alone sometimes cames a feeling of opposition, probably of mental origin, but not reconstrilly attributable to suggestion. At all events, we can influence common sensation very materially by suggestion in hypersis. A feeling of fatigue often appears in the lightest hypersis, and may also exist in the deeper stages. In other suspects also we are able to influence common sensation in hypersis. This is not suspensing when we consider that it is

exectly the common sensations which are most under the influence of mental processes. Just as looking down from a tower causes gliddiness, as the thought of repugnara food prodoors disput, so we can call up those and related phenoment, or carse them to disappear, by suggestion. It is in this direction that the physician has to record the most stricing vaccemen, since the common semutions, of which pain is our, are the erate of most of the complaints we hear of. Anything that we can induce by a mental process, we can ballish by theres. The loss of appetite has dhappeared; you are tanger." I can cause another to feel thirst. Debove, on the other hand, has induced itse of appetite by suggestion to such an excest and for so long a period that the person concerned took no. solid food for fourteen days. Further, it is possible up to a certain point to sarisly the hinger and thirst of subjects in deep hypnosis by merely suggested food and drink, as Fillastier informs us. It is a pity, however, that this result can only be obtained with a few persons and in a limited measure, for otherwise our politicians would no longer need to purile their heads over social questions and the feeding of the master. Sexual feeling can also be produced by suggestion. Leopold Casper tells of a case in which Tissie lapnomized a patient and suggested to him that the right ring-larger should indicate sexual desire and the left abstinence. When the gutient awake, contact with the right finger caused sexual excitement; contact with the left subdued it. Once Tissid forgot to remove the suggestion, and the consequence was that for twenty four hours the patient was unable to refrain from coitus and masturbation. as well as spontaneous emissions. Indirect methods often produce the desired result. For example, a feeling of diagnit can assertimes be induced by suggesting to the patient that repuggent food has been placed before him. An easy was of inducing a feeling of suffocation is to suggest that the patient is decoming.

Abnormalities of voluntary moreovers apart, nearly all the phonomena of suggestion honerto described are the exclusive privilege of the second group of hyperotic states. I come now to some other physical functions which require a deep hyperotic state if they are to be industried. I mention, first of all, the phonomena of that part of the magnetist system which is normally independent of the mile.

We will here, first of all, consider the exculation of the blood and the respiration. A large number of physiological investigations has been made in this field during hypacois, in order to decide what is the state of the pulse and respiration without auggestion, but the statements are so contradictory that we only dam receive their with caution. Some believe that they have discovered objective symptoms in changes of the action of the heart and the respinsion, but we cannot doubt that there has been considerable exaggeration. Tambarini and Sepuili found the respiration accelerated, often irregular, and the lieut-best accelerated and stronger in the transition stage from the waking to the hyperotic state. There was no change in the type of the pelse, but the wave was as a rule higher, and the curve of the polse-tracing was affected by the respiration. Haver and others-Richer, Magnin, etc.-also studied the pulse and empiration is connection with Charcet's stages, but the methods employed did not lead to the discovery of any sharp line of demircation between the cataloptic and lethargic stages. Of other investigations I may mention those on respitation made by Israherg and Vogt, who experimented on one mother. They found that when the eyes close in response to suggration, the number of respirations diminishes, and that the antiject at the same time experiences a feeling of restfal calm, These anthors also found that as the hypnosis proceeded the breathing because slower and more superficial, but was despened at the commencement and termination of the hypnosis. Beautis occasionally found that the tention of the pulse was incremed, which he does not, however, think of much inpostance. Horsley found no alteration is the curve of the poise-tracing. I shall deal with the investigations of Francke and others later on. Dillken found that when hypothia acts in suddenly, the patient experiences a subjective feeling of summth, and as a rule the face flashes and is covered with beads of perspiration; but two cases of sudden deep hypnonis were characterized by facial pallor, which persisted until the experiment was over. According to Lawenteld, Lloyd Turkey almost invariably found the capillaries and smaller attends so contracted in deep hypeosis that even somewhat deep wounds ramed no hemorrhago.

A great conference of the pulse and of the respirition has been after abute of acception (Debroad), or semantic passes were coupled (Ocherosite), the respiration, which was annually

as per minute, sing to go or even must. I have myself made a number of experiments on this point, and fully agree with Bunkers and Perper that these changes are not brought about by the byposies, but by the fixed attenue. I believe that it is only the effort made and the exchenses which came those absorvatizies; the irregularities in the requirities which are clearred at times should be assisted to the terms rame. Perper requires that the respiration of a person limiting at a inferoscopic object often changes; in the same way it displays abecommittee when a person believes hamical septiment. An experienced dupon, therefore, profess to examine the conjuntion enchanned by his patient. At all events, I have arms a midward angelessions of the judge and respiration sat as after a long study of attention without a trace of hypomeia. If there is hypomeia, in a little while the inegalizity and accelerates cense either spontaneously as by suggestion. I have only seen a few cases in which they possibled, but and by no means, included to think this a wigh of hypnosis, as some persons show on acceleration of pulse and importing on the alighbot provocation. Even a consensation is mough to induce acceleration, and changes of pulse and expension have been brown to be brought about by an impossible atting posters. Betales which it must be added that in many people there to an important acceleration of pulse and respiration in the arrong securator confractions of the entitleptic phenomena (Bratil), and also in tools our tracture (Rampil. If I made such persons lie quietly down, and provided environation, physical effort, and mental excitoment, I notes talested any acceleration.

In some instances I have found a deepened and somewhat long-frawn inspiration, and also a slight slowing of pulse, in hyproxin. These were the cases which bore an external resemblance to sleep, and in which, as I have already mentioned several times, no important spontaneous movements take place. It is also very difficult to induce movements by suggestion in these cases. Respiration, which holds an inter-mediate position between voluntary and involuntary movement, can also be influenced by suggestion. I have always been careful never to prolong such experiments for more than half a minute. Whenever I suggested to a subject that he could not breatire, an apparent pame in his respiration occurred. Jendrássik memous a case in which, by means of suggestion, he stopped respiration for three minutes. According to a report published by Borsel in 1853, a "magnetized" subject apparently ceased to breathe for from six to eight minutes, during which time his mouth remained to wide even that the onlookers thought he was dead. Still, shallow respire tion is easily overlooked.

<sup>\*</sup> Respection of me a major on involutionary met, but is you be laffarmed by the well to a certain degree - accelerated on extended.

Numerous investigations have shown that suggestion exerts a certain amount of influence on the blood vessels and the heart. Forel, Beausis, and V. Myets have observed local flushing induced by suggestion. There is nothing astonishing in this, for we know quite well that the varometer system is easily influenced by mental processes. I have already mentioned (page 64) that embarrasonant will cause blinking, med dread, pallor, I also mentioned some experiments of Demontpallier, who induced by suggestion a local increase of temperature of as much as 3° C. To these may be added Kraffs Ebing's experiments, in one of which any body-temperatire could be induced-for example, 36° C. Marix and Hellich also made some very interesting experiments on this point; they frequently found it possible to reduce the tem-perature of a hypnotic from 17° C to 34.5° C in the space of twenty-four hours. This reduction of temperature was not a direct result of suggestion, but was brought about indirectly by suggesting a diminished semitiveness to best and cold. I may also remind my readers that Lehmann and one of his friends found that they could increase the temperature of the pairs of their bands to the excest of 0.05° C. and 0.02° C. respectively. by virially imagining a feeling of warmth at the spot in ourstion. Lieuenfeld also retices that he placed a thermometer in each hand of a person in the sommassbulic stage, pointing out to the subject that his right hand was warm and moist, but the left hand cold; in an hour's time the temperature of the right hand had rises it C. Lecumfeld further states that the subject was closely watched to see that he kept the thermometer fernity grasped. Unfortunately, this experiment, like so many others, proven very little. Lowerfeld should have shown that the grip was constant throughout the experiment, for a change, small arough to escape the notice of those controlling the experiment, will easily produce a variation of temperature. As a curiosity I will mention the local reddening of the skin which has often been observed in spirit mediums (Carpenter, du Prel), and which has been explained as a supersutural phenominon. As such mediums are often in a state of trance, which is possibly identical with hypnosis, this phenomenon admits of a perfectly natural explanation.

Some observations have also been unde on the influence of suggestion on the action of the heart. I myoulf have often been able to produce a slowing of the pube in cases of polpitation. However, we abould be cautious how we draw the conclusion that she suggestion has afformed the nerves of the heart directly; the effect is doubtless an indirect one. For, independent of the fact that the action of the heart is to a certain degree dependent on the respiration, it is likewing under the influence of ideas, which affect the emotions. Such ideas have the power of quickening or alowing the bearfa action; it is possible that the suggestion which records a quick pulse only produces this result indirectly by a semoral of the mental extiting cause, or, vice versi, quickens the pulse by excitement. My observations of the quickening and slowing of the heart's action by suggestion lead me to take this view rather than that of a direct influence of suggestion on the nerves or nerve-centres of the beast. In any case, in would be difficult to exclude this indirect action. No matter how the result was brought about, Beautis has seen several cases of momentary changes in the pulse without the respiration being affected by suggestion. He has seen the pulse full from 48 beats to 92, and then rise to 115 heats. He infers a direct action on the inhibitors centre of the heart, and thinks himself also obliged to exclude ideas which affect the mental state, since the effect of the suggestion was always momentury. But his conclusions are not altogether bonne out by his statements. We must also carefully bear in mind that the method of suggestion employed may so effect the emotions that the imagination can play no direct part in the result produced. To retard the pulse we must andress the subject se slow and soothing tones; sharp and hasty remarks only conduce to acceleration. Bérillon also found that the pulse could be accelerated or retarded by auggestion. On one occasion he experimented on a case of pronounced tachycardia, and found that the pulse which was first of all accelerated by hypnosis from 1,52 to 138, could be reduced to 114, 102, and even \$4 by suggestion. Bramwell also found that he could accelerate or retaid a patient's pulse by suggestion. In one case, in which the subject when weaker had a pulse of Bo, hypnosis brought the beats to 100, but subsequent suggestion reduced them to be per minute. Branwell has rightly pointed out, indirect suggestion sometimes affects the pelso. For example, tell a man he ment harry up or he will miss the train, and his pulse is immediately seccionised.

It is not necessary to say easily of these other functional abnormalities of the involuntary number which occur without the believes of suggestion. Man Research are a case of storing which he storicated to intuition of the cerebal current and manual is often observed in persons who are easily excited or highlessed (Freedmann)?

There are other ways in which suggestion can affect the levelantary muscles. Peristahis is frequently influenced in this manner. I have lad several experiences of the facility with which the bowels of some hypnotics are affected by suggestion. I say to one of them, "In half an hour after you wake your bowels will not." This is certain to act. "Tomonow morning at right your bowels will act." The effect follows. "To-morrow between eight and nine your bowels will act three times." Exactly the same result, though the subject remembers nothing of the suggestion on awaking. It is interesting to note that the action of approunts can be arrested by suggestion, though this does not often happen. A patient takes a dose of castoc-oil which is sufficient to procure copious action of the boxels. He is told in hypnosis that the medicine will only take effect is forty-light hours. The suggestion is effectual, although with this person the door habitually acts promptly and abandantly (a. Kraft-Ebing). Or let a few drops of water be given to the hypotonic with the assertion that it is a strong purge; motion of the howels follows. Suggested emetics act in the same way. This is not very surprising, as we know that these and other functions, even though they are independent of our will, are yet under the influence of the mind. On the other hand, Marell reports that a hypnotic, Mr. X., was induced to drink tamer emetic for sherry. So long as X, was hyperctized he did not suffer from names, retching, or any of the must results of a dose of tartar emotio. As soon as X, awake he began retching, which could only be stopped by hypnosis. Ventring at the sight of disgusting things, and the celebrated miss game pills administered as aperants show that there may be suggestibility without hopmosm.

We find but arranty accounts of physiological investigations into the processes of scuretion during hypnotis. Perspiration, which was noted by the carlier measurements—for example,

<sup>1</sup> This was communicated to me privately.

Heineken, Klage, etc.-hm also been observed by later investigators (G. Barth, Demarquay, Ghaud-Teulon, Heidenhain, Preyer). I doubt if the secretion of sweat depends on the hypnosis; I believe that it is rather a result of the straining and excitement of fixed attention. We know something more about the influence of suggestion on secretion. Burot shows that the secretion of saliva can be induced by suggestion, and Bottey demonstrates the same thing of perspiration. Charles Richet says that erection and emission of semen can be effected by awakening in the subject's mind the impression of sexual intercourse. I have mentioned above that I have myself seen a hypnotic's eyes water when it was suggested to him that he was smelling an onion. By producing emotion it is possible to influence the secretion of tears. A gentleman who believed he was a child again, imagined he had list been disobedient to his parents, and as he asked forgiveness in the hypnotic condition he shed many turns. In a case of increased secretion of the gastric juice, Bergmann believes that he has everted therapeutic influence by suggestion and rendered the gastric juice normal.

The scoreton of milk is also under the influence of suggestion. A case, which only shows, however, the influence influence of suggestion, has been reported by Hausenstein. In a wet nume in whom the secretion had caused, it again flowed copiously by suggestion. It had ceased, however, owing to excitement over the child's condition, and was renewed by suggesting away the excitement. J. Grossmann reports a case in which the secretion of milk was produced by direct suggestion, and Bramwell states that Estable and Braid knew of the influence of suggestion on the secretion

of milk.

The literature of the question contains a few statements which seem to show that hypnosis influences the secretion of urine; but, undoubtedly, in some of the cases reported, the act of micturition, and not the secretion of urine, was influenced by suggestion. It is often a very easy thing to make a subject empty his bladder. One has only to say to a subject in deep hypnosis, "You must make water directly you wake up," or "You must make water fee times during the first hour after you wake up," and in many cases the suggestion proves effectual. Few investigations have been made in to whether the secretion of urine can be influenced.

by auggestion. However, Westerstrand mentions smalls produced in discusse of the hidreys which almost justify the conclusion that in certain persons it is possible to influence the kidney sceretions of suggestion. This is not so strange when we reflect that many discuses in which there is increased sceretion of units are of surgous origin, and that assisty and fear may influence it at any time.

Kraft Ebing draws conclusions as for the increase of intentinal secretions from one experiment. He augusted to im subject a profess watery executation of the lowels, which followed. As the binddes had been supplied shouly before, and only a small quantity of water had been found in the unite, Krafft-Ebing thinks himself obligat to consider the fluid

as an increase of the intestinal secretions.

Some investigations have been made as to how metabolism is affected during hypnosis, but we should certainly lengths to draw any basity constantons from them. Brock finds that in a short hypnosis of twenty minutes' duration, with partial catalepsy of the extensities, the min of the solid constituents, and also the phorphoric acid in the urine, decreases, as Stribing has described in catalogsy. But as Brock forget to 4,3 saming points without hypnois (Preyer), but experiments prose nothing. In any case, no conclusion as to the action of the brain most be drawn from them, though Brock concludes that the activity of the brain is learned, because the quantity of phosphoric acid is decreased. Guitler also found that the quantity of phosphoric acid varies, but as he did not make any comparative experiments with the same subject in inalogous circumstances walkout bypnosis, he refrain from drawing final conclusions; because, to juvely these the evacuations of the boxels and the respiration must be investigated also. A. Voisin and Hassin conclude from their investigation of the union of hypnotic subjects that anymilation a cassied on better during hypothis than in the waking condition, and that hypnosis is not a pathological condition. Glies de la Tomette, who made similar experiments with the assistance of Chatchiners, holds the opposite opinion. According to him, the secretion of urine keeps on diminishing as the hypnotic steep is prolonged. Both these investigators concluded from their experiments that bygons is

and hysteria are closely related, even as far as metabalism is

I now come to some phenomena which almost invariably audion minimat. I mean the anatomical changes effected by suggestion during hyposis. No matter how teeptical we may be on this point, it would be perverse to deay the possibility of such phenomena. We certainly do know that organic changes can be brought about by mental processes. I need only recall the physiognomy of certain professions—for example, the type of the ciergy shows how a spiritual and mental avocation guidually exercises an influence on the physiognomy. In the hypnotic experiments which I shall now proceed to describe the process is only somewhat more acute.

Among the experiments in this intection I will first of all mention the cases in which mendination is affected, more especially those in which menorshagis is induced to arrested by suggestion. It is not to be doubted that this is practicable to the case of contain persons. Forci has made a whole series of experiments on this point, and has also partly confirmed the securacy and the effect of suggestion by personal investigation. Many other experimenters have also been able to confirm the effect of suggestion on menstruation (Lebaudt, Brancherg, Sperling, A. Vonto, Gastard, Brand). The inflatence of suggestion in memorrhagic overms less wooderful when we reflect how very much psychical influences otherwise change it. It is well known that the periods often become irregular in women who are about to undergo a surgical operation.

I have mentioned the influence of suggestion on menstruction in this place in spite of the fact that these experiments do not, properly speaking, demonstrate an organic change. We may be concerned here with a suso-motor disturbance, which secondarily induces the organic changes.

This appears to me probable.

I may further mention the experiments of Bourre, Barot, and Berjon, who induced bicciling by suggestion in the same subject as Mabile, Ramadier, and Jules Voisin. Payadgur had witnessed the same thing. Bleeding of the one appeared at command in the above-mentioned subject, and later on bleeding from the skin at a time decided on beforehand.

When the skin had been subbed with a blanc instrument in order to direct the maggestion, blooding of the skin is said to have appeared at command, the traces of which were suitable three moreths later. It is interesting that in the case of this person who was bemiplegic and amosthetic on the right side, the suggestion would mat take effect on that side. Mahillo's observations of this subject are particularly interesting, became they show that a person in hypnosis can cause these likenings by auto-suggestion.

Unfortunately, the accounts we possess of this case do not tell us whether contact induced bleeding under other circumstances (F. Myers). But any possible error is excluded by the fact that the blending did not follow closely on the contact, which would have been the case if the effect were mechanical. Berjon reminds us also that prenationary measures were taken to prevent the subject from bruching his own min and thereby accidentally ranning a wound. Artigalas and Remond later on published the case of a women of twenty-two in whom texts of blood appeared. By suggestion it was also possible to induce bloody sweat on her hand. Laguerre and Bardier have dealt with this woman's filness, but in the abbreviated report which along I have seen, it is not stated whether the sweat was subjected to a microscopical and chemical ambaia. Everybody will here call to mind the stignation of the Roman Catholic Church. Eleeding of the skin is said to occur in them, generally in spots which correspond to the wounds of Christ. I shall powers to this spention in a later chapter. At the present moment I may just mention that Hebold once successfully treated a case of hysteria by suggestion, and that by the same means be caused red patches to disappear and a wart to lall off.

The experiments of feliberel, who worked in common with Wintwarter and Henrijean, also belong to the rims of organic lesions. Delbourf produced symmetrical burns, and made one of the wounds painless by suggestion. It was observed in this case that the painless wound showed a much genter tendency to beal, and, in particular, that the inflammation showed no tendency to sprand. As, however, there were some slight aromalies, the experiments are not fully convenience.

Jendrássie and Kraft Elbing obtained marks like hums on one of their subjects by means of suggestion. If some object, such as a match-box, a pair of seision, a small-box, a linear-

stump, ever, was pressed upon the skin in the scorning, and the subject was at the same time told that his skin was being burned, a blister in the form of the object emulted in the afternoon. The marks remained a long time visible. If the object was pressed on the left side of a patient who was attentiable on the right, the barn appeared symmetrically on the right almost as if reflected in a glass, as could be especially seen if letters were used. Jendrissik maintains that deception was absolutely excluded in these cases of suggested burns; and a dermator logist, Lipp, at one of the experiments, declared that it would be impossible to cause the suggested lesion by any amiferal means, either mechanical or chemical Bonus by suggestion have alten been observed in the Salpëtrière. Pierre Janet experimented on a patient who showed nounds like those of Christ. Schrenck-Notzing also observed that a wisini which this same patient had in the cardiac region bled on Good Friday. In one case Janet suggested stignistication of the right insteps the skin turned red at the spot suggested, and a blister followed which healed by scabbing. During the experiment the patient was very carefully watched, the foot being enclosed in a three of copper having an operator in which a watch-glass was inserted, so that the changes which the skin might undergo at the spot suggested could be observed (Schrenck-Notney). Ryvalkin and Westerstrand have also seen Jums induced by suggestion, and Podiapolsky states that he succeeded in produring blisters in the case of a persent-girl, aged eighteen. The girl was thrown into hypnotic sleep at half-past nine one evening, and the suggestion made that she should be affected by a blister like that produced by a born, at a quarter past twelve the next day there was a histor filled with aspers fluid; but the details given do not suffice to show that the experiment was properly controlled.

The experiments state by Schrenzi-Nouing on one patient belong to this category. Flach, of Aucharinhung, experimented on a girl of sweaty, and succeeded in producing mythems by suggesting that the sold key held to her skin was ted hot. The stythesia was visible these weeks after the appriment was made, and healed by superficial exfoliation. Wheals have often been produced by contact with a solid substance, although the subject experimented on had never previously offered from any spontaneous form of nettle gash. Flach, who first of all experimented in conjunction with Officer.

texted the same patient by some experiments which be made with Parish's assistance for the purpose of ascertaining whether severe pain, followed by inching and the formation of blisters, could be induced by suspertion, without the skin being directly atimulated. As a matter of fact, a watery bilister appeared the next morning. In further experiments in which it was suggested that a bem was caused by the thermo-cautery, crythems and blisters of various sizes were produced which could hardly have been caused by artificial means, as the spore selected were covered with wadding and platter and uraled up. An experiment was made in Munica in the persence of a number of specialists. The subject was wanched constantly, and the possibility of any mechanical injury chainted by means, of a bundage. In this case it was suggested that a particular spot on the lack of the forecrm had been beened by the thermo cautery, but when the bundage was removed the injury was found to be in from. As, linwever, the bandage had been pierced in several places and a hampin was found in it, it was suspected that the injury was suff-inflicted. To avoid any possibility of doubt, another experiment was made in which a plaster of paris bundage was used; when the bandage was taken off it was found that nothing had happened to the skin.

The fact that the results in this case diminished in direct proportion to the productions taken is not an off-hard proof that suggestion produced no effect. It is very possible that the extraordinarily strict precautions taken so affected the subject's mind that any reaction to suggestion was evoluted. On the other hand, the case does not conclusively prove that

organic lesions can be induced by suggestion.

I now come to some experiments in which the hyprotic was told that a fainter had been applied to him, which blister was only an ordinary piece of paper. As Blinet and Féré informs in, this experiment was made as long ago as 1840 by an Italian down, Préplemn, and Du Prel tells in that in 2849 a sloughing of the skin was obtained by an ordinary piece of linen in the case of a communicale who had been magnetized by Celicume de l'Aupégin. Foreston, an apotherary of Charmer, has recently repeated the experiment. Sometimes along, and sometimes in company with the Nancy inscringators, he applied pieces of paper, suggesting they were blisters. He is said to have often produced blistering. Beaunit has published an event report of some experiments of this kind.

After the experiment had lasted for twenty-one leads the paper was taken off, and it was found that the skin was thickened, dead, and of a yellowish time; later, perhaps as a result of the pressure of the clothes, neveral small bissom appeared. The reverse experiment has also been successfully made by the Nancy inventigators, who were affect to counteract the effect of a real bissor by suggestion. Meanier has published an account of such an experiment made at Nancy. Forch, also, often tried to produce organic changes by suggestion. In one attempt to produce bissors little pastules of acue appeared. Besides this, Prof. Forch has made steme other experiments, the results of which he has kindly allowed use to publish.

The experiments were made on a name, twenty-three years old, who was not in the least hysocrical. She was the daughter of plain country people, and had been for a long time an attendant in the Zirich Lunatic Asylom which Forst discens. Forch considers she was a capable, hopest person, in no way

Inclined to decet.

A gammed label was fixed upon her chest above each breast; its shape was square, and in no case was an imitating gum used. At midday Freel suggested that a hister had been per on the left side; and at six o'clock in the evening a moist spot appeared at this place; the skin was swollen and reddened around it, and a little inflammation appeared also on the right side, but much less. Forel than did away with the suggestion. On the next day there was a scale on the left side. Ferri lind not watched the more from midday till six o'clock, but lad suggested that she could not scratch herself. The other nurses said that the subject could not mise her hand to her broast, but made vais attempts to scratch. Porch repeated the experiment later, he put on the paper at 11.45 a.m., and ordered the formation of bilitters in two and a half hours. Little pain was suggested, and therefore the nerse complished but little. At two o'clock Forel observed that the paper on the left side, which had been used for the experiment, was surrounded by a large red swelling. The paper could only be removed with difficulty. A mous surface of the epidemils was then visible. exactly square like the paper. Nothing particular appeared under the paper on the right side. Forel then suggested the introduce disappearance of pain, inflammation, etc. Nevertheless the place wept and suppursted for a week, and the scab lasted for some time. "Even when Prof. Forch related this

to me, seven weeks later, the place was still brownish. The nume was a little annoyed and measy about the experiment, and she was not strictly watched while it lasted.

A few stays after this experiment Forel drew two very light crosses with the point of a blanc knife on the same person. They did not blood. Another cross (Fig. 1) was made on the inner side of each forearm. Several doctors were present.



Forel suggested the appearance of bilisters on the right side. Even at the end of five minutes, during which Forel watched the subject, a contiderable steddish swelling of the skin appeared (Fig. II., a). A wheal, A had formed itself round the cross, a somewhat in the shape of a cross. On the left side nothing was to be seen but the cross that had been drawn, unaltered, as in Fig. 1. The wheal on the right side resembled a vaccuration postule, in the form of a cross-best it was simply a dry popular swelling, as in notificable. Forel then suggested the disappearance of the swelling and the wheal, and, further, the appearance of a drop of blood at the end of as hour. At the end of the time a very small shop of blood was to be seen; but the wheal, redness, and swelling had disappeared. But as Forel had not watched the subject during this hour, he attached no importance to the drop of blood, which might have been caused by the prick of a needle.

Later on it was only possible to cause a slight reddening of the skin. Forsil only lays weight on the experiment in which the payalar availing was produced, but even that he does not consider absolutely conclusive. Still, the fact that the wheals only appeared on one side tells against the theory of mechanical tritation. Of course it may be objected that both sides were not scratched alike; but, as Ford points out, the autro was not one of those persons who get a wheal whenever their skin is alightly stimulated. Except when bitten by graits she never showed any wheels. When her skin was scraped it showed a disposition to reciden, but whenly never formed. She had, busides, often been acratched by meane patients, but so remarkable result had ever been observed.

It should be mided that there are people who develop wireals only mental surfaces of without bypassis. A transmirthy observer taild me of the control of person who was an inglifered of the adventures that he thousand wheals with a sed border whenever one was approaching. It. We as cells of a case to which begin irrestably massed as armsh of daylor daharo, from which be concludes that structural changes in the unsees may be brought about by suggestion. At the same uses he considers that the solution should be carefully material before charving any conclusion.

Naturally, all these experiments must be received with a certain amount of reserve; not that we have a right to duny that anatomical changes can be produced by auggestion, but became the evidence of such changes having taken place must be primpeachable before we can accept it. Otherwise wo should show ourselves as incapable of conducting a critical investigation as the quarks who perturd in their advertisemeras to be able to rure my and every organic finence by magnetism or some other universal specific. We must also participate in Schrenck Notring's sceptic am as to the coarlasweness of the experiments described above. Most of the objections raised by the sceptics are to the point, especially those which refer to mefficient appervision of the subjects experimented on. But Lowenfeld thinks that Schrenck-Notions has carried his sorpticism too far, because Charcot did prove in one of his experiments that traphical processes can be influenced by suggestion. On few consecutive days he sagcented to a hysterical patient, in hypnosis, that his right hand should swell and become larger than the left; that it should turn blush red in releas, and, further, become hard and also colder. The suggestion is said to have resulted in the right hard swelling to twice the nim of the left. The hand also because ejanotic and hard, and the temperature fell about three degrees. At all events, no matter how sceptical we may be, we are not justified in straightway denying the possibility that suggestion may induce organic changes in the skin merely because we have never seen such changes, or because their excumines is rare. Nescetheless, rarines do occur, such se

micrarriages which earnes be accounted for, triplets, and millionaires. We believe in their earnement, although we may have mover seen them currelves. Because a phenomenon is sare, or that we have never observed it, is no argument against the possibility of its occurrence. Consequently the observation of any rare phenomenon is valuable.

## (a.) Partialign.

In the foregoing tections we three studied the physical symptoms of hypnosis, and have only casually touched upon some psychical phenomena. We will now proceed to investigate the latter more closely, but I shall naturally only discuss such as are characteristic from our present point of view. For practical reasons I must first speak of the number, because it determines the other psychical activities. Without memory no action of the understanding is possible, and all the higher mental functions depend upon the memory. Memory during and after hypnosis has been specially studied by Richet, Delbeest, Dichas, Beaunis, and Fitres.

Memory, in its brandest sease, consists of these pasts: Seelly, of the power of making idea; seembly, of the power of regardacing them ideas; thirdly, or the power of recogning the lifety and of licelists; them notedly is the part. To make this clear, let us take any evens which we returnlest-for example, a tence stability gives to so by a leicher. The memory in this case arm in three ways: in the fam place, what is said it socilyed and orthined in it; in the second plane, the processy gan seproduce the lecture; and in the third place, we can place it in its correct position in time by recalling its relation to other events, such as being at the school, my that the power of name is no ruly made endeat by the affilty to rependent on impression; correspondly the first two facelines are appointly interfeperalism. Still, it is commany to make a thouseful distinction, and William James cults extention primary memory, and reproductive aroundary currency. At all groups, although reproductive may be the only proof of the retention of ideas, the two processes can easily be distinguished. This is easily demonstrable. There are times when we carried stead certain erents, although at other even more remote persons we gain all no. Which means that although in the first case the repression could not be immediately approduced, it had nevertheless been provided because it was reproduced later one a last which shows that the two processes went be differentiated. The same holds good of the third powers that of conspolly localizing past events. That a mane should occur to me without my being able to measet it with come put excet three that the third of the powers which we have discussed in distinct from the simply remodulation of an impression.

The retention of ideas is hypnosis has been little investigated. Because has found no countial difference in this
suspect between hypnosis and waking life. Mos Denseit has
also made experiments, the results of which he has communicated to me. From these it appears that memory is weakened
in deep hypnosis, when this is not provented by suggestion.
Max Denseit repeated a number of splittles which the hypnotic
was to try to remember; a suggestion of improved memory was
entirely avoided. Unifer these electrostances the hypnoticed
inhight remembers fewer syllables than did the same person
when awake. The older memory was intensifed in the magnetic
sleep; poems could be learned by heart in a much shorter time
than is the normal state. However, these investigators did not
altogether asvid suggestion.

Is the chain of memory in ordinary life broken by hypnosis or not? It was fermerly supposed that the subject always forgot on avoking what had happened decay hypnosis; but

this view has not proved cornect.

In the lighter hypnotic stages, especially in the first group, there is surely any abnormality of memory; the subject remembers everything in the hypnesis of which he was conscious in normal life, and after hypnosis recollects all that had occurred during that water. In the deeper hypnism it is very different; they belong for the most pair to the second group, and only a few to the first, and these is less of memory (amornia) after the hypnosis. The subject is much astonished when he hears what he has been doing during the hypopois-that he has been running about, that he has had hallucharious. Sometimes, however, a dim memory persists, like the memory of a dream. I suggest to some one the hallscington of a bird flying about the room; the hypnetic tries to catch it, amuses himself for a long time with it, gives it sugar, pats it in an imaginary cage, and so forth. After walcing he disals recollects that he has seen a look but that is all; he certainly sloes not believe that he has left his west. However, there are certain people who recall everything after being told what they have done during the hypnasis.

In other cases, associations of ideas will call up memory. A hint is given to the hypnotic after the awakening and complining secure to him (Heidenhain). There is something of this sort in distance, so very often remember a whole decase when we are some object that is in any way enmocted with it (Delberal). The same thing happens when a person is able to repeat a quotation or a power directly he has beard the first woods. Let us consider an example in hyproxis 1 suggest a concert to a hypnotic; he hears various pieces, and among them the overture to Martin; meanwhile he cats his supper at the concert, drinks his heer, and talks to imaginary people. After the awakening there is no trace of memory. I mk him then if he knows the opera of Afarthe, this suffices to recall nearly all the events of the hypothia. Sometimes memory is aroused in the same way by pure chance. X, believes in bypnous that he own a number of persons he knows at my bounc whose presence I have suggested to him. He goes through several scenes with them, but remembers nothing on awaking. Only when he meets one of the persons several days later does the while thing recur to him. Delboral draws attention to one method of making the memory last: he thinks that subjects remember any hypnoxic event if they are asukened in the middle of it; but this is certainly not universally true (Gurney). On the other hand, it often happens that the first or lint occurrences are remembered, while all the others are forgotten. It has often been observed that memory after awakening can be produced by a special effort of the hypnomist (Eleuler, Fierre Janet). Bembeien even thinks that mamory can be produced in all cases by means of a strong suggestion after awakening, especially if the suggestion be attempthened by earning the subject to place his hand on the experimenter's forehead. Some persons remember all the hypnatic proceedings during their nightly sleep; it is not rare for the hypnotic dram to be repeated in natural alcep. It is also possible in all cases to prevent post hypnotic amnesia by suggesting during the hypnosis that the patient on awaking a to remember all than has happened; on the other hand, post-hyprotic amnesia can sometimes be produced by suggesting to the hypnotic that he most lorget all that has happened during the hypotoin. But such cases are comparatively speaking rare. Bernheim observed cases in which, without any suggestion being made, the subject on geaking had forgotten not only what had happened during the hypnosis, but assents which had immediately proceded its osset.

But if we avoid using any kind of suggestion, thee, in some cases, chiefly in the deepest hypnosis, mercury of even the

hypnotic proceedings carnot be secalled after awakening. In such cases the period does not generally know how long he was in the hypnotic state. On the other hand, the subject temembers in hypnosis all that has happened to previous hypnoses. Things that happened in hypnoses many pairs lock, even as many as ten, may be smalled, although they are completely forgotten in the waking state. Wolfart relates the case of a woman who committeed in the magnetic sleep all that had taken place in a magnetic sleep thereon years before, although in the meantime she had never excellenced it.

Events of the normal life can also be remembered in hypnosis, even when they have apparently been long forgotten. This increased power of memory is called hypermnesia. Benedikt relates a case of it. An English officer in Africa was hypnomized by Hamon, and suddenly began to speak a strange language. This turned out to be Welsh, which he had learned as a child, but had forgotom. Breuer and Freud point out that many cases of hysteria are called forth by some psychic moment that the patient rannot recall in the waking condition, though hypnoxis may again broug it back to memory. Voge and Bundmann have given reasons for employing hypostic hypernonesia in thempentics, and the former has also used it in psychological analysis. Hirschlaff, however, who has made many investigations on the subject, feels compelled to deny the existence of any increased power of recollection in hypnosis. He is consinced that the apparent increase of recollection depends either upon the suspension of an emotional form of infinition which existed in waking-life-for example, a hyperctic will relate something which modesty would compel him to withhold in waking-life-or upon auto-suggestion brought about by the verbal suggestions of the experiencenter.

Sorth states of increased recoffection recall others which are maratemed in the literature of hypototion; it is entaughe, the famous one of the servent girl who mobiledly spoke efficience. She also, in not almost all the servent girl who mobiled spoke efficience. She also, in the almost all other contributions, spoke a largeage which she find not know, but which the last of the last which when y last girl from all a clergmans. We have obtained to the subject of distance are classic, related a monthly of fining, which extremed to him in distance, all hough when a walce he know rolking about them. The hopphonod formation of hypototic indiponent of which we so often heat, and which we can observe in mobilepowers then, are a result of this increased power of reproducing ideas. Many apparently separatural facts are to explained to this way. I shall refer to this later en-

Durams, also, which have occurred at natural sleep are sometimes rependaced in hypmois, although they may have been forgotten on waking. It is naturally very difficult to strige of the accuracy with which dreams are seported. But as dresses sometimes leads to talking in sleep, it is then possible to make observations. I know of many cases in which persons becaused their dreams by talking in shelr sleep; in several instances I was able to show that the Issa of memory which followed on waking disappeared in byprosss, and the thream was remembered. In one case a bed-fellow was able to confirm the accuracy of the recollection. The occurrences of a pathological condition may be reproduced in hypomia just as we have seen those of a stream. Bramwell mentions a case reported by Morton Prince, in which a hypotened person romembered many things-especially those which had occurred during the delisium of fever-which could not be recollected when the subject was in a normal state. In recent years this question bas opcapied the attention of several authors, among whom may be mentioned Nast, Griter, Halger, Muralt, Heilbronner, Binswanger, and, more especially, Riklin. They endeavoured to cestore in hypotoni, memory, the loss of which and been caused by epilepsy or hysteria. Binswanger and Heilhronner consider that the amnesia of hysteria can be dispelled in hypnosis, but not that caused by epilepsy; on the other hand. Rielin concludes from his experiments that the amnesia of epilepsy may also disappear. Bramwell experimented for the purpose of ascertaining if in hypnosis a person could recollect what had happened to him when under the influence of other or taughing gas, but only obtained negative results. Other experiments in which attempts were made to came subjects to recollect what had gone on around them while they were in natural sleep were equally unsuccessful. A sentence was read to X, while he was askep and repeated several times, but he was quable to recollect it when he was hypnotized. Biodinann tells us that Vogt was able to restore in hypnosis the memory in some other cases of amnesia; for example, in the some delirium ariting from neuratheria, in post-epileptic annesis, and loss of memory arising from some infective disease, but never in the case of a real epiceptic fit.

It corretines happens that the hypnosic does not remember all that occurred during the hypnosis. Thus statters of no interest to him escape his notice just as they would if he were

needed. In some cases the cause of the amnessa cannot be ascertained. I said to a hypnotic, "To five minines time you will call out 'Ha!' three times." He did as he was told, but did not afterwards remember that he had called out. But apart from this, several states of consciousness may occur, so that a subject us one state does not know what occurred when he was in another. From this Gurney impresses two stages of hypnosis, distinguished from each other by completely different resmorter. The old magnetizers described such stages. Gamey distinguishes two stages, e and &. In stage, a the subject known mething of stage \$ , and in 8 mething of o. It cannot be disputed that in some persons several sharply divided states of consciousness may exist, apart from the waking consciousness; this is also affermed by Kraft-Elsing, Max Denstir, Pierre Janet, and others; but I think it erroacous to speak of it as universal. I cannot take upon one to decide whether Gurney, who was an excellent experimenter, may not have used suggestion asconiciously. But I consider at necessary to emphasize the fact that I have recently seen cases in which arparate states of memory have apparently asisen spontaneously; they may, of course, have been largest about by nato-suggestion or indirect suggestion. We shall see later or, when discussing change of personality, that such claims of memory can be easily induced directly be suggestion.

But aport from these cases of hypersensis it is charactermic that in the deeper hyperotic states not only the events that have taken place in eather hyperotes are remembered, but also the events of waking life. On the other hand, is the waking state the events of this state alone are remembered. This state of things is named "double consciousness" (double occasions in the broad seate of the terms. If was evidently well known to the old measurests—Klage and Deleuce, for

example-and was also observed by Braid.

The state of shades consequences in size forms under published and confirms. One of the boro-known cases was possibled by state. The life of the patient, one Felals by same, for teachy thery past was divided into certain periods—a, b, c, d, c, d. In the periods a, c, a formula confirmity the renormhend only what had happened in these in the periods b, d, f (seemed consistent) the renormhend want occurred in the periods, as well as what had happened in the periods, as well as what had happened in the periods, as well as what had happened in the periods a, c, c. The manualities was a, c, c, which the purhological was b, d. C. Ongod Minus in state was a c, c, which are which was weathed for ten years; a maintable lexiture of this state was that the patient, a secure, sent thoroughly

arquitited with the medical basing of Fritals (Arran's case). This may, perhaps, necessar for his diames. Many other similar stars have been published. Man Decembs thoughtful work on the "Dopped Sch." contributes much to the shaddarian of this question of double-contributation; in these that indications of such a splitting of the correlessors are much sweet common than has lathested been between the trainers as to manuples in from this and is perfectly as to manufact the formulate and in perfecting at states. I shall return to the double consciousness with most family in the theoretical part of this look.

One phenomenon which I have often observed depends on memory in the later hypnoses. If a whole series of scenes is suggested to a subject in hypnoses a very slight impulse suffices to cause the whole pursuants to pass before him again in a later hypnosis. A hypnotic imagines timaelf hunting z lion; he kills the lion and devours it; and then by suggestion he is turned into a general, and then into a child. On awakening he forgets all them things. In a later hypnosis he hears an unexpected noise, which he immediately believes to be the roating of a lion. In consequence to goes through all the scenes again, suchout contrast the smallest detail. This incident may be accounted among the sudicest suggestions, since the auto-suggestion was around by an accidental encumbrance.

The case discreted and quieted above by Midalle, in which a precommissioned becomeshings by auto-suggestion, ofter it taid occur been induced by currently suggestion, belongs to the same natigary. The subject argumental termed, we to speak, into two persoon, one of a love made suggestion to the other, as is proved by the consequence which the partied on with beautif.

The subject's receivation of all that he has exponenced in earlier hypomeses to most important. The possibility of hypothermining denoted mean the strength of the recoffiction, which is also a frequent source of error in term experiments, there they are easily noticed by manning of the castler once. I say to the hypothermal of "You will now rathe powr left leg." X does no. While I make the suggestion I animateleously take hold of his eight hand. Where, is a later hypother, I again take hold of his right hand. X, liths his left log. Evidency he remembers the first error, and regards the taking of his hand as an erries to lift his log. It is pushable has the most reflexes which flow and others thought they had discovered, and which it has magnituded being come about it they had discovered, and which it has magnituded being come about in the way.

Although equations may differ as to whether hypermucian may be induced in hypocois, by means of suggestion, the possibility of inducing errors of memory (parameters), or failures of memory (suspessa), can hardly be doubted; Bernand collected many observations on these points. These memories may consist of former perceptions; the suggestive influence of those former perceptions has often been observed; by means of them the uniquet may be completely delaided about his former experiences. Since these suggestions have a certain retreately force, they are called retreately suggestions; or as they are concerned with supposed sense perceptions, they are sometimes termed retreately hallocinations, either of a positive or negative order, according as a new memory is ureated as an old one annufied.

I say to a subject: "Of course you remember that we went to Poladom yestively, and juck a drive on the Hatel?" The suggestion takes offer, and he at more begins to relate all that he telleses we fill in Puralam. This is a netroactive positive halloclastion, because the hyperoid believes that he has experienced countries that sever really secured. The following would be a tetroactive negative halloclastion, as the hyperoid forgets assembling which did happen. I say to him. "Von lates not had any description in our not had any latenty you have not had any latenty post incer not had any latenty in the him has had nothing to sat since he got up.

Many motor disturbances of which I have before spokes may be reckoned as related to amnesia, or loss of memory. For example, when I tell somebody that he cannot lift his ann, or that he cannot speak, I am sometimes dealing with loss of memory, became a movement is made impossible & the memory of it cannot first be called up. This is the rase in those paralyses which some French authors (fliner, Fire) call terralizate quelimationes-a puralysis for a special act. Such a paralysis is not followed by total functional inequesty of a whole group of muncles; the function is rather interfered with for one particular was only. The incapacity to say a, or to sow, for example, would be a paralysis for a special act; if the perion could not speak or move his ann at all, this would be a complete paralysis. It is possible in this way to deprive the subject of all memory of the letter it for a considerable time, so that he can neither speak nor write it. It is possible to produce almost all kinds of aphasia experimentally, as Kussmaul, Arnilt, and others have demonstrated. We can cause any one to forget a language he has learned-Frenth, for example (Forel, Frank); we can make writing impossible (agraphia). By a suitable suggestion a hypnotic can be deprived of the power of making timself understood by facial espression (aminia). Drawing, sewing, every form of activity, in fact, can be prevented by suggestion.

There is a particular group of disturbances of speech in which the power of speaking is more or line lost, though the perception of words remains intact (motor aphasia). It is easily induced by suggestion. But we can us further, and not only deprive a subject of the power of speaking but also of the perception of speech, or even of any particular word or leater. It is possible to diprive him of the very idea which he attaches to a letter-e, for example. This difference will become clear if we observe the behaviour of a person under the different electionstances. If he retains the idea of the letter he is consciour of his inability to unter it; he is aware that he a speaking or writing nomento, because he has no letter it, and even tries to avoid words in which that letter appears (Max Dessoir). But if he is deprised of the conception or idea of a letter, he is no longer surprised that he cannot write or speak it. This becomes still more interesting in posthypnotic suggestion. It is possible to cause a post-hypnotic loss of memory, and to make the subject at the same time replace one letter by another. I told a hypnotic that aborhe was awakened he would always say e instead of e. I note him, and saked, "Are you awake?" "Je" (Ja), he explied. When saked what he had been doing, he replied: "Jch heb! geschlefen " (Ich habe geschlafen). The subject hughed, but was at the came time slightly annoyed became he could not atter the latter at, and was perfectly aware that he was talking nonzense. But if the idea a were also missing, or had been replaced by the idea s, the subject would say a instead of a without observing it.

I have shown above that subjects may be made to forget certain of their experiences (negative retreactive hallusinations). In the same way, whole periods can be made to vanish from a subject's consciousness. Mr. X., who is forty-three pears old, was told, "You no longer remember anything that has happened to you since you were thirty." This sufficed to cause a blank in X.'s consciousness. He was unable to answer any questions about this period; he did not know how he made my acquairtance, nor how he got into my room; when such questions were put to him be invariably shrugged

his shoulders and amwered, " I don't know."

It is possible to easy this still fasther, and trampest the subject back to an earlier period of life. In this case the subject finds no gaps in his memory; he believes that he is living in this earlier time, and brings his present surroundings into relation with it.

Here is the case of a man why simple at St. Paints in the Fernelt War. I suggested to him that he was younger, and in the battle. He would spat uses, gave emiliarly seders, and commanded the artiflety to open fire. When I mided him if he knew Dr. Molt, he said, "My distant assume in Research that if he knew Dr. Molt, he said, "My distant assume in Research that have been been been the day of the loads; he was thirdly assumed of the thermonian for which I was triating lim; he said he man qualit well. When I mided have select I was triating lim; he said he man qualit well. When I mided have select I was the registed he did not know. It was interesting that he really not be induced to extrust; I tried to enable him take a few sleps inch well, but its arplined, "I will not extrust our step without orders." I suggested that the excess was supromables, but problem sound induce has to refrest. When I show his attention more and more upon myself, and to recognized me, and know his tent ups, but had no record of what had per proper.

A lady, aged thirty-forr, whose I massed to believe that she was eight pract old again, esked for her shift, apoke in a children roles, mind when she throught I was about to take her doll away, and called for her manner.

Finally, it is possible to make a paramit believe that he has never how been. Even this suggestion will be accepted, and the consciousness will

be on absolute Link;

By pluging a subject back in some entire period of life-entitlined, for example.--Kraff-Thing endeavoured to obtain an experimental solution of the question as to whether greats which have disappraised from construcness can be brought back dancy byperson. He considers that his uspecseems have welled this question in the affective, and further thinks that the charges in handwaing and tiple of expression poticed in such extenare typical of what the subject must have been when a child. But a different interpretation of Kraft Florig's experiments has been given by other investigators. July, Kirkler, and Lowers'eld assence that when each a saleset behaves like a glad he does not really depict has even chadlesol. but taking the experimenter's requirement to use of that he should get like any child, he believes us be incigines a child would. I think that this interpretation may be taken at generally arounds. Still, we must not exclude the possibility of that first of hymestic hypersurate being seensimulty not with; a untilde subject such easily he refurested in visit way, with the result that a marmonic image would be reproduced.

New memories can be counted at the time the old ones are cancelled. This is the case with the phenomenon which Charles Richet describes as a synthesism des types. In this case the subject believes bisself another personality, another being; not only do many memories corrected with his own conditionally, but he also endeavours to connect the minating teconomics with his suggested personality. Durand de Gros was acquainted with these phenomena; he appears to have come across them in America, where they were already observed in 1800.

Field a serials Ma. N. that he was Dr. Moll, and that I was Mr. N. a spon which he saind me to take a stat, so that he might hypercise me. He are support to do any he work assertably through the process which I go through with him, and did not beget to eather several determine assertable.

through with him, and did not deput to make neveral algorith superintent. I experimented with another mus in whom these phenomens are very easily produced. He would represent with demnitir visibless any character which was within the gauge of his ideas. I taid him, "Van are Napoleon I.," upon which he gauge of his ideas. I taid him, "Van are Napoleon II.," upon which he immediately assumed the farmous problem of Napoleon other the lattle of Waterloo, her spoke German, as he did not know Preset. As frederich the Gent, he walled with a creately in the well-known gain, and know nothing about railrands. Subjects can be noted to believe they are assuming they will hash like dogs, to cook like long. They can even by suggestion he changed into intrinses objects, such as stores, chairs, tailes. When X, thinks bloomly gloss he require down on both langs when it is suggested that the chair has a broken leg, he sinks his have to the granted and tests on one log; when he is a caspet he less that and menumbers. These experiments in suggestion may be tarried usin list than. "Von me under of giant, I may so a beymotic; he stands perfectly will, When I tell another that he is made of mobile, he stands of the longest cannot be marked; but directly be believes himself to be made of was he becomes plastic and allows himself to be placed in any strands.

It should be remarked that the subject always obeys the experimenter, even when he believes himself an inanimate object. Moreover, hypothized subjects are not always consistent in these experiments; they often forget their gon, though this may be generally prevented by training. For example, another person whom I had changed into Frederick the Great travelled contentedly in a railway carriage, evidently not reflecting that there were no milways in those days. Another, whom I had carried back into the year 1864, spoke of the new Cerman Empire, of the Emperor William L. In spite of such inconsistencies, the mental images are much more consistent with hypnoxics than with many lumities who believe themselves to be kings and prophets. The inconsistencies of lunation see much greater, and hypnotics scorer get rid of them. Besides this, when they represent a new personality, memorian of former experiences disappear more completely than is the case with limities (Cullerie) asymptic change of personality each change is usually accomparried by less of memory of that which preceded it. One person whom I hyperatized was unable to remember as Napoleon what he had done as Frederick the Great.

The change of personality in hyperstics has often been compared with the performances of necess. It is the epision of the necessi Domestell that the actor who himself atomes the title of his part and allows bisself to be governed by it will play his part the heat; others also example, the famous Claimon-held a different opinion on this point. In any case, few actors are able to recommendate and remains their cover that of a channel —e.g., that of Julius Geom, in thoroughly as a hypositic are do. The pulsest is not districted by seas-prescriptions, while the attra-casmot around being affected by those. Some actors, in make to play there parts as naturally as penalth, call up imaginary objects by force of imagination, or as to place the machine.

Graphological investigations have been undertaken in several numbers in order to decide whether the handwriting of the hypsetized subject changes with the personality, and if the charge bears any relation to the personality. Charges have horn observed (Lombroso, Ferrari, Hericourt, Richet, Varinard, Mayerin). The expert Hories, however, thinks that the subject's handwriting is never about to such a degree as not to be recognizable. I have never seen distract charges of handwriting follow on change of personality; only in some cases when I placed the subjects in different periods of life has the handwriting altered. As children they wrote awkwardly and made mistakes in spelling; as old people they wrote stakily. The trials made with Krafft-Ebing's patient, who wrote different hands, corresponding to the different earlier periods of her life, are very interesting; unformerably, the writing could not be compared with true writing of the valueet at those periods. Sidis has published similar esperiments. In one case, however, Kraft-Eting was able to compare the handwriting of a byprattic placed in an earlier period of life with the subject's actual bandwriting at that period, and thinks be could trace a certain similarity between the two. Nucl's statement that in hypnoils the writing always differfrom the subject's normal hand, and that consequently lognotic signatures may always be distinguished from others. secons to me too general. He is probably right when he says that in many cases the writing of hypototic subjects is irrerular and spasmodic.

We have now studied the memory, which is a chief condition for the continuance of mostal activity. This shows no abnormalities in superficial hyprosis, though such may be easily induced in deep hyprosis, at least by suggestion. But a certain adherence to rule in the chain of ideas, conditioned by the laws of association, exists in deep

hypnosis, as in the waking state. Certainly associations may assume the character of hallocinescens when the state of corneiounness is altered. I suggest to X, that he has a pash of cards in his hand. He believes it; and the montal picture of the earth aromes the idea that he is playing a game of "Skat," and that he is in a susquesses with his friends V, and Z. The angle suggestion of cards has sufficed to call up a whole scene by association of ideas. Certainly in this case the associations are merely mechanical—

fix, no high degree of mental activity is concurred.

Nevertheless, the mental activity, thought, appears as soon as we deprise X of the existing associations, and he coests himself to enute a new segmence of ideas. I tell X., while he thinks he is holding the eards, that he is in the train, and the chain of ideas connecting the cards and the restaurant is put as end to. In order to establish a connection between the cards and the train, the subject new declares he has bought the made for a birthday present for a friend whom he is travelling to meet. The consciousness and will of hypnotics also express themselves in the case of indeterminate suggestions (percentions indifferentelle, as Beamis calls them). In such suggestions no definite ection is commanded, but the subjects are left to choose among a number. Here is a man with a violent beenchial estarrit. I suggest to him in hypnosis to do something or other which will benefit his health. He at once gets up. and goes to a box containing catechu for the purpose of taking some. Indeterminate suggestion can also be made to act post-hypnotically. I tell a hypnotic, who is sixting with me one evening in my room, to do some thoroughly foolish action after he wakes. He wakes and blows the famp our

The fact that the subject sometimes allows himself to be persuaded to do something, if a season is given to him for it, shows even more plainly that the thinking process is not arrested in hypnosis. Nothing can induce X, to spill a glass of water in my room; but directly I tell him the stom is on fire be does it at once so as to entireposit the fire.

It is important to know how the hypnotic subject sometimes makes a logical use of slight external impressions which ampbody also would hardly think about. Much apparent "clairvoyance" is due to this. Many subjects are helped also by the hyperenthesia of their organi of sente, which enables them to recognize things which would be overlooked in the waking state.

Let us take a very common aspenment, often made to provid the contract of susself reagnetism. The suggestion integer hower elector he has been touched by his suggestion or another person. It is assumiting to observe the assumey with which such subjects, when there eyes have loss hardered, on delinguish on person from another. Otherwice, who believes in animal magnetism on other grounds, gives a transfer of interesting examples of this. The legislate subject observes the smallest details—the differences in the strongth of pressure, in the temperature of the hand, in the posture of the person touching him, in the sounds he saskes with his there eate; nothing it overlashed, and a logically must conclusion is drawn. It may very well happen in such cases that the subject is not clearly consulting of drawing his conclusions from these distant. This phenomenous is very common in mornal life. How often it happens that at four eight one person thous a constant as to the character of emotion; and is at the army time anaware of the details from which he draws it. We often divise the meaning of a face withour keepsing how; we think that it is a clover or a stayed face; we recognize on expension of happiness in orders at come, without multileg the details of our impression. Thought transference, of which I shall speak letra, may often be continued in this way; the satisfic rands the wish and thought of the experimenter occur is a general, in the direction of his own, in the involuntary assument of his lips (Carpenter), particularly when he has had some framing in this line.

The prophecies and predictions of communicates and other such persons often depend upon the logical authorates of such insignife ant impressions. A provider meanth quickness is not always necessary, as is shown in the case of a man who was table by a mathespee that he had littly sufficied a loss in its handle, This was tree. The man was automated till a friend show his attention to the tapt that he was coming craps—a last which

gave the southwaver a clue (Fourietie).

In hypnosis, just as in the normal state, mental activity depends upon the attention paid by the subject; indeed, in the deep hypnoses the subject's attention plays a particular part, being easily diserted from the experimenter. In deep hypnosis the subject's attention is first directed to one point only—i.e., to the experimenter, so that other objects hardly exist for him. When this phenomenon is clearly marked, we speak of support; or of soluted support when the subject is in hypnotic connection with only one individual. This is an important phenomenon of hypnosis. We saw in the fourth experiment (p. 35) that the subject only answered are, and apparently ignored the other persons persent. Isolated support is a common phenomenon of deep

hypnosis. It can indoubtedly be induced by inggression; whether it can only arise in this manner or may be brought allout by other means, is to be questioned. Deliken only once saw a case of isolated equation without the necessary augaricion being made. I have often seen cases of this kind in which I do not think I lent any assistance either by word or shoot. It may of course be objected that in such cases auto-suggestion plays a part, because the hypnotic thinks of the experimenter when falling asleep, and so, by nato suggestion, isolates hierard from the other persons present. This is a possible suplantation, though it appears to me doubtful whether the concept suggestion suffices to explain the phenomenon, because there may be associative panceuses at work which are not included in that concept, The old mamerists were acquainted with isolated recovery. It struck them that the magnetized person appeared not only to bear, but also to feel the magnetizer. This form of explorer was to them a proof that the magnetizer exercised a physical inflance on the person magneticed. I have, bowever, demonstrated in my large work on Rapport in Hypnoxis that isolated report occurs so a psychic pheno-isenon without the sid of magnetic manipulations. Up to the present no one has made any nerious attempt to refute my demonstration. The phenomera of magnetication acc exactly the same as those observed when a subject is sent to sloop by augmention. As suggestions are most easily mide through the muscular sense and the braning, isolated senses. A unique, X., is hypnoticed. I lift up his usus; it remains raised in suggested entalopsy. Another person, A., makes a similar attempt with the other arm, but without coult; the arm always falls down loosely. A, now tries to bend the nataleptic arm, but is premitted by its rigid contracture, while I rawly succood. The command of the experimentar sufficients put other persons. A for example. in expanse with the subject. The commitmens are malagous in verbal suggestion. The experimenter says when he has lifted the ann, "Now it bends, now it falls, now it is stretched out," and the effect at once follows. The get in rapper with the subject by the experimenter. This shows the importance of regrest if a subject is to be in-

fluenced. On the other hand, I must point out that persons who are not in suggest with the hypnotic are sometimes only apparently ignored. It can be shown in various ways that aemo-impensions coming from other persons are perceived, although they do not cross the threshold of consciourness. I have been able in some cases to demonstrate the estitence of perception by means automatic writing, to which I shall refer later; in others I was able to produce the necessary proof by persistently suggesting that the subject should do something which A. who was present, told him to-for example, put his hand to his forehead. Being a case of isolated rapport, the patient ignored A's command, but subsequently obeyed when I suggested that he should do so. Phenomena cusetly like those of rapport in hyperosis have been observed in spontaneous sommanbelism (Macario). Finally, I must mention that in superficial hypnosis also, in which others besides the experimenter are distinctly felt and heard by the hyprotic-a fact he readily admits-he can sometimes only be influenced by the experimenter. The ideas suggested by the latter alone lead to the realization of suggestion; attempts at verbal suggestion made by others are heard and may be repeated by the hypnotic if requested to do so, but they produce no effect.

As we have already seen, isolated ropyout depends entirely on the attention paid by the subject to the experimenter, and just as the ruppert may be transferred to another person by suggestion—i.e., the subject's attention directed to that person, so we can force the hypostic to concentrate his attention on any point we please. The increased mental activity which is occanionally concreted in hyposis is often referred to the fact that the subject's attention is directed to one point exclusively, from which nothing distracts it, and, as Hirschiaff points out, the same result may be induced by suggestion. Hirschiaff found by experiment that, with the same subject, the reaction-time is shorter in deep hyposis than in the waking state, and

By reaction-time we mean the time that chapter between the moment of making a sense-impossion and the moment when the impossion married staff by some extract sign (Wardt). It is known that a member of different processes take place in the conocionatum during the time of sense. I shall the less enter into them, that the researches

thinks this explains the phenomenon mentioned above.

which have hitheren been made must the time of remotive chaining hypamics being given contradictory smalls. Stanley Hall found the time of reaction considerably shortened in hypomes. He found—

Define hyperais c. ph sec.
Dering hyperais c. in 191 c.
Half an hast after hyperais c. 548 c.

The lime of searcion during hypersis is then sensibly doministed here; but William James's experiments have not confirmal Study Hall's. He readly always know an interest of time of reaction having hypersis, constitute to an important extent. He gives this as an average on one occurrent.

Refore Approxima 0.282 mins-During hypoxim 0.346 mins-After legislates 0.265 mins-

But as there are many contributions in Janua's different experiments, no definite conclusion can be drawn. He binned believes that the contradictions are to be aspished to the fact that so many different states are included to bypassis, as fluid abouty know, and that we should be rareld sot to generalize from single observations. Errorit, who has also made these experiments, is equally currents. The only coordinion he arous from his partially controllerary results is that the time of reaction in hypersis may be shortened by suggestion. Similar results me given by the experiments of Henika, Worsdpraki, and Berkerew. These charges also found a lengthesing of reaction time in hypothis at com-pared with the waking committee. Marie and Annaly have measured the time of staction for suggested same-delesions in hypocia; they board it tauger than when the object was a real one. Protuge this is because the points of recognition (passes of recognition (passes of recognition). picture before it can be perceived. The time of reaction," according to my experience, may last so long-to orders to the experienced with the phinographs on page 100-that we might even speak of a search for the picture. The enliger looks till he finds the points of reorganion, which at more social the suggested picture to his memory. This search may be ented with a den consciouseon that the whole thing is a didution, but there can be no question of signification.

Other investigators also attribute increased activity in hypnosis to increased concentration of the attention. Beenaud is quite right in thinking that the increased power of vision and of hearing in hypnomia are to be ascribed to an increase of attention. Quibe a young lad, a relation of his, solved problems in his sleep which he could not solve when

<sup>&</sup>lt;sup>1</sup> I am doubtful it in this case we could to talk of time of reaction, as this expression is generally used only with argued to perceptions of real objects.

awake, a phenomenon which Brimand ascribes emisely to greater attention, and not to quickened intelligence (Grorq) Concentration of the attention also explains the increased functional activity in hypnoxia observed by other investigators. Ach, for instance, investigated the question of merital activity. To keep his subjects' mindo compassing employed in one direction he set them the task of adding up column after column of simple digits, and found that under this abnormal and intensified concentration of consciousness the work done was one fifth more than would have been accomplished under normal conditions. Bechieves found that the time accupied in counting simple numbers, or in associating ideas, was shortened when the subject was requested to carry out the

processes in question with greater rapidity.

In hypnosis the feelings also are subject to the industrie of suggretion. Desire and dislike can be very easily suggested, purticularly in deep hypothes. Similarly, the whole mental tone, which is so closely connected with the feelings and with common sensation, is readily amenable to suggestion. But as to whether the feelings as a whole exhibit abnormalities in hypotosis without suggestion being brought into play opinious differ, but as they do on so many other questions in which suggestion is concerned. We occasionally find the view promulgated that the hypnotic is extraordinarily grave. 1 cannot admit this. Many people, on the contrary, seem particularly comfortable in bypnosis, an observation which Richet also has made. Of course we can hardly exclude the possibility that this state of feeling may have been brought about by into-acquestion. In same cases the emotions are easily controlled. It is consequently very easy to induce either tudness or electricitiess in deep hypnosis, and these emotional scaces often alternate very quickly. It is even easier to call up such emotions as love and tate, anxiety, anger, and fear by means of suggestion; for example, a hypsonic can easily be thrown into a passion by suggesting the presence of a particularly offernive personal enemy. Sometimes a simple command suffices to call up a purocular emotion; fear, for example, may be induced in this way, the subject putting himself in the fear-inspiring situation by autosuggestion. At all events, in many cases a very lively exprestion of emotion can be extrarody easily induced by suggestion, either directly or indirectly. Under such encumstances, the facial expression, attitude, and posture of the

bypnotic clearly show what is passing within him-

The impulses also may, to a certain extent, be controlled by suggestion. Observations which have been made in the field of sexual powersion above the great power of suggestion in this respect. I shall return to this question in Chapter VIII. in which we shall see that under certain conditions codinary

hetero-sesual love can be influenced by enggestion.

Of course verbal suggestion is not the only means of implanting those ideas which influence the feelings, emotions, and impulses. We have already seen that the sense of sight and the muscular acres can serve for the perpose of suggesting ideas, and this is also the case when the lockings, etc., are to he influenced. The suggestions made through the muscular scene, observed by Braid and Charcot, are founded on this (suggestions d'attitude, or suggestions por attitude). Il a subject's arms are put into the arrivade of prayer, the face toon wears an expression of religious describer. The following is a favounte experiment of Churcot ... If the subject's hand is mised to his mouth as if he were theoring a kins, he smales. If the fat in closed and mised in a thecatening attitude, he looks angry. Charcot and Ricker maintain that the experiment may be reversed. It, for example, the muscles used in laughter are stimulated by firadization, so that a laughing expression a induced, the movement of throwing a kin with the hand follows. If the muscles which produce an angry expression are stimulated in the same way, then, according to Charcot, the arm is raised in anger. It is very probable that say putions of this hand are affairs of hypotheteraling. From this it follows that one movement may cause abother by eaggestion, but not that the movement necessarily calls up the emotion corresponding to it. It appears, however, that in a series of hypnotic cases one movement not only caused another by suggestion, but called up the corresponding emotion as

I may here meeting that an occasion may be used with advantage to help the induction of terms—behance. I give an antighney gloss of a very little disposant to a subject, X. He says that there is no giant of figures, and that be has nothing in his hand. Without noticing this objection, I gross him to nitis his him to his remain by suggestion, and coder him to drive the figures. He obeys slowly and hesitatingly; but when his hand readers his mouth he makes dishing movement, and the expension of his face shows that he has a disagreeable time in his mouth. When

I sale him what is the mames, he arrowen that he has an implement thate, in if the had just densels asserthing bitter. There at from the tree situation was recognized by the subject; the supportion took effect during his compating movement. In another case I make a redject rever his fragres as if he were ploying the piezo, and suggest at the man time that he is ultrying. He have not helium it, but continues the movement. While he show this the sites of piezo ploying soully asked by degrees in his mind, and at hat he makes the movements in the first helial he is playing the piezo. I have poles instituted that it was contact in piezo cases belief that he is playing the piezo. It have pless about that it was contact in protect some definition by accompanying movements than by wetal suggestion alone, and I would accommend this as a means of deepering the hyperson in materials comes. It is often improvible to define the soult moment when terms definition may easily in extense before, as whether it was called up by the computatory movements.

I take this opportunity of pointing out that particular movements have been singuised to easily mount process in waking life as well as in hypothic, a fact to which Dugain Stawart. Geniclet, and others paled attention long ago. I may resulting an example force critically life; an attinuous exponenting unger in assumed; a real feeling of anger very effect, out to the majority of anger to the fact to the majority of anger to the fact to the majority of anger very effect.

self take a presion," is a proof of this,

We thus see that a particular movement exerts an influence on the emotions and ideas in waking life. This can of course, be considered merely an instance of auto-suggestion. Still, it is doubtful whether the term suggestion in its present-day sense is permissible in this case; and we are as little justified in considering "colour-hearing" an auto-suggestive process, because the phenomenon may be the result of a number of procesus which have no deset connection with suggestion. The chief point is this: does any particular mineriar action in hypomia call up emotions without any previous special training which it fails to do in the waking state? Let us take one of Charcot's examples: if I make the necessary suggestion, and also stimulate the muscles used in haghter by fundamtion, the subject makes the movement of throwing a hise with the hand. According to the views held by Charcot's school, the movement of throwing a kine is not brought about in this way; it is rather the result of an associative process which has nothing to do with any external suggestion. This appears to me more than problematical. Bouchard and Pitres think they have discovered that contraction of the muscles used in laughter calls up joyful feelings or ballacimations-i.e., such as are intumorely connected with facial expression. Moreover, it is well known that a normal person can be reade to laugh hy

forcing his mouth to assume a laughing expression. Any one can easily demonstrate this on himself—hold the chocks ferrily with the fingers, pull up the comers of the mouth, and a laugh follows. Whether electful feelings smult from this procedure is another question. Any way, the authors we have mentioned assume that in hypnosis chearful hallacinations sense from contraction of the naucles used in laughter. In his work Le Rive, etc., Ruslin records similar experiments make by swriters investigators; he thinks that in the cases mentioned external suggestion was apparently rankeded. Yet the examples he address for the purpose of proving that cheerfulness, for example, can be induced by the assumption of a particular posture, are not convincing; at least there is no proof of the absence of suggestion and training in the experiments to which he refers.

We have something similar to the above in the above integrans of Pitres. I have already mentioned that according to Pitres stimulation of certain portions of the body induces hypnosis, of other parts terminates it. Pitres also states that stimulation of particular portions of the body which he includes in his town integrals really appetition of the temporal region is and to have caused cheerfulness; has this form of stimulation is not invariably effective orders the subject is hypnoticed. There is only one case on record in which stimulation of the zone in quantion induced laughter when the subject was awake. Pitres has also described town Megions for certary and other mental states, but there is no recounty for me to discuss these questions, because we have no guarantee that external suggestion was really excluded in any manner.

I will now mention a particular method of inflaencing ambjects which has recountly attracted a certain amount of attraction. It acts through the sar like ordinary verbal suggestion, but music, and not speech, is the agent. In 1894, Warthin published experiments dealing with the question. His subjects were fire men and two worsen, all of whom were stated to be in good health. Four were physicians and intores, the reat students, and none of them had ever been the subject of a hyperotic experiment before. They were all more or less fond of rataic, athough it did not excite any of them particularly or cause any noticeable physiological action when they were awake. All this is said to have been changed in borrooms.

which leads me to remark that the whole account reads like a fairy tale. The "Ride of the Valkynics" was played upon the piano, and although only one of the subjects knew of the connection between the music and the wild ride, the idea of riding is said to have been called up in each of them, the connects idea being derived from some recent experience. The only one who understood the music even imagined himself one of the riders. The magic fire, also, caused all of them to experience a sensation of the and flares. But when the imaginary ride was at its wildest, and the numic clanged from B major to B minor, the effect was even more intense. All were thrown into a tentile state of collapse; the pulse fell from two to 40 beats in the minute, was irregular, toot, and awall, and the respiration was remeded and detressful. The same experiment was often successfully repeated with other subjects.

Some little time ago a "dream dancer," Fear Magfelette, attracted much attention in Germany. Others soon followed in her wake. When hypertized, and under the influence of specially selected music, also was able to express any emotion to perfortion, by facial play and passenance. Her takent for dancing was also a factor. The more mention of an emotion, or any other form of impension—for example, the recital of a poem—called up the emotion in operation. The commotion which this "deep dancer" caused was brought about by two things: (1) her takent for acting; (7) has incapacity to display the same except when hyperetized. It was also stated that she had never received any special training for her performances. I shall enter into a criticism of the whole question later on in the section dealing with Art in relation to Hyperain.

From all the phenomena biblierto discussed it must have been gathered that there can be no question of loss of consciousness in hyperonic. Of course, I mean loss of consciousness as it is understood in psychology, and not in the penal code. In the latter, according to Schwarzer, Cusper, and Liman, it means about the same as abnormalities of consciousness; but according to the view more generally hold (Krafft-Ebing and others), it implies abnormalizing of self-consciousness. Of course we can only talk of loss of committee new from a physiological point of view when no kind of psychical process taken place, as is the case in a deep faint, or

coma, or the death-agony. We have seen that the subject in hypnosis amembers the events of earlier hypnoses. Consequently impressions were received into the consciousness in these earlier hypnoses. We cannot, therefore, talk of loss of consciousness because loss of memory exists after the awakening (Forel), apart from the fact that pusc-hypnotic suggestion in hypnosis will pursue the loss of memory. This temporary loss of memory is often erroneously considered a peoof of loss of consciousness. It is just as erroneous to assume that the fact that a hypnotic sometimes does not obviously respond to external influence is a proof of amongousness. We have only to consider the case in which the hypnotic is in replace with one person only, but at the same time is quite anomacous as far as other persons are concerned. The family that a hypnotic responds promptly to the suggestions of the hypnoticer only proves how internally the attention of the former is directed to the latter.

Even the states mentioned on page 75, in which no response. could be obtained to questions and demands, do not prove loss of consciousness; for (1) post-hypactic suggestions could be made, and were effectual, which pooyes that there was conarioniness; (2) these subjetts woke up directly they were told to do so (Bernhe'm), which also shows that they were conscious. The forms of lethargy also have to be considered-the letharge which Charcot describes as such, and the lethingy termed hysterical, of which I have already spoken (p. 48). As concome the latter, it must be absolutely sixtinguished from hymnosis; it has nothing to do with the phenomera of hypnome. With Charcot's lethargy the case stands thus: apart from the numerous cases of lethargy here described, and which even the pupils of Charcot admit are associated with movements caused by command, these remain very few cause worthy of consideration. I doubt, however, whether there is the loss of consciousness in these cases which Charest describes. The cases which I caw in Paris commend me of the contrary. The quickness with which these lethargic subjects fall into cutslepsy when Charcot touched their syelids, showed that these apparently unconscious persons had been attentively waiting for the moment in which they were expected to become cutalegale. Consequently the loss of consciousness seems to me more than questionable. The point is of great importance, became Charcet's papile maintain that the pitersmens of the muscles and nerves at the lathargic state are not induced by

surgestion.

Of course, we shall occasionally come across cases in which any evidences of consciousness are too obscure to be readily demonstrated, but that does not justify the assumption of loss of consciousness. At all eyests, loss of consciousness has

nothing whatever to do with hypnosis.

But though we cannot speak of a loss of consciousness in hyperois, we must, however, often suppose we abnormal state of commissioners. for if some one believes he sees things that me not present, or fails to see things that are present, he is certainly in an abnormal state of consciousness. If a must forty prairs old believes he is ten years old, or somebody else, his consciousness is certainly abnormal. We find such phanomera continually among the second group of hypothic subjects, and we must consequently here suppose a material

abnormality of consciousness.

But even in such cases we occasionally find a certain degree of consciousness. For instance, many hypnotics have a distinct feeling that they are saleep, or in an altered state (Richet, Piene Innet)-a phenomenon of onlinary sleep, for we are occasionally conscious in dreams that we are aslesp and decaming. Many hyperetics of the second group have this contricuness of being asleep, and when they are asked if they are asleep to awake, they give the right answer. When, as sometimes happens, the awakening is incomplete, they also rightly say that they are not quite awake. Many people have a feeling of deep hypnosis if they are incapable of resisting certain suggested ideas. I say to X., "You cannot lift your aim " "Yes I can," he answers, and experiment shows that he is right. But the contrary tometimes happens; the subject often knows exactly the mireste when his power to mant is at an end, when he must obey. N. announces after a time that be is at this point; "Now the hypnonis is deep enough," he cays. I say to a person thirty years old, wheen I have often hypnoticed, "Now you are a little child." The subject replies. "It is not exough pet; you must wait a little." After a time, when I ask, he says that he is now at the right point. In other cases a remarkable amount of judgment is displayed in hypnosis. Many hypnotics, even those of the second group who are open to sense-delesions, say that they know quite well how suggestion works and that the influence complied on

them is a purely mental one. One in whom all kinds of semedelusions can be induced, said to me, "I know that you do not exercise any extraordinary magnetic faculty; it is my own imagination which deprives me of my will and obliges me to

obey your but I cannot help it."

Even delinious of the somes brought about by suggestion are sometimes corrected purely by a reasoning process. A subject decimes to believe that there is a well in my room; or, rather, he explains that he sees an image of a well plainly though, and could point out the exact spot. But he knows quite well that it must be a delanion, as I should containly not allow a well to come into my committing-room. Manuals says that people can guied themselves against bad dreams and control them in sleep by a process of thought. This control often causes delanions of the arraws to disappear more quickly, in other cases they may peniat, in spite of the correction made by the reason. If the correction is complete, the delanions will have no results, they will not influence the actiom following.

All the phenomena which I have just described may be observed both in hypnotic and post-hypnotic suggestion. I ask a man before I hypnotice him to tell me of something which, in his opinion, would never be found in my soon. He says he would never believe there was an owl in my soon. In hypnosis I make him the post-hypnotic suggestion that there will be an owl in my room. He wakes and mys be seen the owl plainty; it is chained by the foor. Although he knows and may that the owl is only a hallocountion, it is so real to him that he besitates to put his finger on the spot where he

intagines it to be.

It is not always easy to recognize the mental state of a hygnotic subject in suggested sense-definions. If is many case all thought and action is dependent on the deligion, in other cases the effects are less complete. I even believe that most subjects retain a dim conscientness that they are in a fectitious, and not a seal situation. For example, I suggest to a potient that he is in battle and must fight. An imaginary straggle begins at once and he him the sir. When I suggest that a cloth on the table is an enemy, he strikes at it. I suggest that one of the persons present is an enemy, but in continuing the fight the hypotococtakes care not to strike this person. Naturally this looks like simulation, and an inex-

perimoned person would take such to be the case; but it was quite possibly a real typical byproom, in which, in spite of the sense-defusions, there was a dim consciousness of the line elimition which influenced the actions of the hyprotic. This dim consciousness of his real surroundings prevented the subject from striking a human being, but left him free to hit a stoth. This behaviour of the hyprotic reminds one foreithy of automation. As we when malking in the struct and confing a newspaper, automatically avoid knocking against passers-by, so the hyprotic avoids hitting another person, although he is only distily, or not at all, aware of his contence.

It is the same with negative ballocinations. Birnet and Féré have said about this that the object want be recognised in order not so be preceived. At all events, in negative hallocinations the subject has a disc consciousness of the true situation. The authors countened above made a series of experiments in support of their assertion, which I have been able to aspent

with success.

If ten sheets of white paper are taken and one of them narked on the back, the integer can be made to believe that he only sees non-sheets (exposes visual hallocitation), even when the shoet whose invalidity was suggested is among them. If he is mixed to give up the nine absent, he picks out the nine unmarked ones and leaves the other, guided by the teark, Consequently he is able to distinguish it from the others,

although he is unconscious of making the distinction.

A series of experiments made by Cory are even better. I was able to reput them in part, and came to the same results. I took a street of paper and they a rather inegular line on it. I then suggested to the subject, X., that the paper was blank. X. agreed that he saw nothing. I then drew fifteen straight lines on the paper and mked X, what he say. He said, "Fifteen lines." I recommuned the experiment, but made the first line straight instead of crooked, and then supposted its invisibility; upon which I added twenty more lines curetly like it, and made X. count them. "There are twenty-one," he said. Therefore the line suggested as about was only invisible to X, when he could distinguish it from the others. The following experiment resembles this:-- I took a match and marked its end with a spot of link. I then suggested that the match was invisible. I took twenty-nine other matches and but the whole thirty on the table in such a manner that X.

could see the ink spot. To my question, X. replied that there were only twenty-sine instelles on the table. I then, while X's eyes were turned away, moved the marked match so that X. could not see the ink spot. He looked at the matches and said there were thirty of them on the table. Thus the marked match was only invisible so long as X. could distinguish it from the others.

From these and other such experiments it may be concluded that the subject recognizes the object of a negative hallocination, even though there is no perception of it. The automatic writing of which I shall speak further on also demonstrates this (Pieme Janes), as I can prove by numerous experiments I have made. The results of the suggested negative hallucination depend upon the influence exerted by the real object, in spite of the opposition brought to hear by suggestion. I suggest to a subject, X., that a table which is between him and the door is no longer there. X gues carefully to the door, but avoids hitting against the table. I suggest that the electrode, which is armed with the very painful faradic brush, in invisible. After ribsing the coment I touch the subject with the brink, and he shows great pain. When I ask X, what has hurt him, he says he does not know, for my hand is empty; but at the same time he takes care not to touch the place where the brush is lying, or does it heatatingly, and with evident signs of fear. I tell another that I am going out of the room; he apparently weither sees not heart me. Yet every suggestion that I now make to him is executed. I order him to take the cushion from the sofs and throw it on the floor; the order is obeyed, though after some hesitation. To another subject, who also believes that I am out of the room, I suggest sense-delesions-the presence of a dog, etc. All the suggestions succeed, evidently because the subject hears what I say, though he believes me absent. I tell another that he is deaf, upon which he comes to do what I tell him. But after I have several times repeated "Now you can hear again," he obeys every command. We see in these cases, which I could multiply, that the organs of sense are narmally, that a certain affect is produced, but that the supressions are not received into clear consciousness. I naturally do not maintain that this is the case in all positive or regative in lucinations; on the contrary, is some the delusion is complete. This depends on character, on training, and to a great estent on the manner in which the suggestion is made:

I wished morely to describe the more incomplete and by far the most common cases, because they are often mistaken for simulation.

The cases detailed above provide to with noteworthy instances of the persistence of consciousness, and to a certain estent of self-consciousness as well, in hypnosis. It is obvious that where self-consciousness is so strongly expensed the activity of the hypnorie's will cannot be entirely suppressed. Let us new inquire in what other ways the activity of a hypnotic's will is displayed, bearing in mind that we have to deal with an external and an internal activity. The former governs the movements, now starting, now inhibiting them; similarly, the latter rules the ideas, feelings, and emotions, which are, within certain limits, influenced by the will, the latter tometimes arousing and sometimes suppressing them.

When we investigate the activity of the will in hypnosis, care must be taken to distinguish between the two groups which I described on page 50. In the first group the external activity alone is diminished, and the consciousness presents no abnormality. The subject knows exactly where he is; he knows what is being done with him; he makes the movements commanded because he cannot help it; his limbs are paralyzed at command. Catalogusy may be induced by suggestion, and yet the subject will be fully aware of all that goes on. Some of Hack Tuke's subjects—for example, North, a physiologist in London—have given very interesting information with regard to the interference of the will during the experiments, which makes them unable to resist, though otherwise fully contains.

It is very different in deep hyprosis. Here also the external activity of the will in limited, as we have already seen. Moreover, the experimenter can very considerably influence the internal activity of the will by suggestion. But it is exactly the quickness with which the subject can be transferred from one situation to another, and with which he accepts the suggested idea, which demonstrates that he is only the plaything of the experimenter. Just as the ideas of dreams transport us from one situation to another, so do suggested ideas. Pleasure is changed into pain in a minutent; the moods change as quickly as they usually only do in children and the sick. The subject now thinks be is in my aroun; the next

moment he believes he is in bed; directly after he is swimming; now he believes he is ninety years old; and in the next second he is back in his tenth year. Now he is Napoleon L, then a curpenter, then a dog, etc. This change of ideas often takes place in a moment; the corresponding ideas arise at once through association. The quick change of ideas, feelings, emotions, and of the whole mood is so common that I was astorished to read (in Malten) that a legal specialist in Vienna, Ferroni, has been led by at to conclude that the thing is simulation.

In spite of this, it would be a goost mistake to think of the subject as an automaton without a will. On the contrary, the will of the subject expresses itself in manifold ways, as may be seen from the expressions of self-consciousness noted above, and each of the two forms of volition has its own expressions of will.

Often the decreased power of will show itself merely in slow and linguing movements. In these cases any movements can be made, but the subject takes longer to perform them than he does in normal electrostances. An inexperienced person has a tendency to fail to recognize hypnosis in such cases, he generally thinks the experimenter mistaken in calling them abnormal. Further, it has been already acid that in nearly persons only certain muscles can be controlled by suggestion (page 71). In other cases it is necessary to repeat the suggestion often before the result is obtained. For example, a subject can case his arm in spite of the command of the hypnotiner, but repetition of the command ends by making the movement impossible. These are examples of the way in which resistance to suggestion expresses itself.

Expressions of the will which spring from the individual character of the patient are of great psychological interest. The more an action is repulsive, the stronger is his resistance (Forel, Delternf, Jong). Habit and education play a large part here; it is generally very difficult to successfully suggest anything that is opposed to the confirmed habits of the subject. For instance, suggestions are made with success to a derest Catholic, but directly the suggestion conflicts with his creed it will not be accepted. The surroundings play a part also. A subject will frequently decline a suggestion that will make him appear eldiculous. A lady whom I can'ly caused to make suggested movements could not be induced to put out her

tongue at the spectators. In another such case I succeeded, but only after repeated suggestions. The manner of making the suggestion has an influence. In some cases a most be repeated often before it succeeds; others interpret the repetition of the suggestion as a sign of their own ability to resist. Thus it is necessary to take character are arrively into account. It is often easies to induce some action by suggesting each separate movement than by suggesting the whole action at ones. For example, if the subject is to fetch a book from the table the movements may be suggested in turn; first the

litting, then the steps, etc. (Bleuler).

Resistance is sometimes occurred in other ways. Reagnis. has observed that an attack of hysteria is sometimes the answer to a repregnant suggestion. I myself have observed that subjects have asked to be awakened when a suggestion displeased them. The fact that subjects are not nearly so inclined to discuss their private affairs as is sometimes stated is another proof of the activity of the will. Dolliven found that whole tissues of his were at readily inverted in hypnoris as in the waking state; and Lowenshild observed that hypnotics spoke the truth-heatatingly, perhaps, about matters which they would have gladly kept to thenselves when awake. But he also admits that valuects are prone to make false statements when it is to their interest to withhold the truth. The statement, so often made, that a hyperetic is always ready to tell the truth unreservedly, is not quite right as far as my experience goes, though many subjects are readier to make admissions in deep hypotosis than when awake.

We shall are later on that the managina that the mash can be extracted from a hypostic has induced some people to advance the use of hyposise for increase proposes. I self only mention here that apan from legal cases it was assumed that the truth could be merramed by hyposiss, superfilly in the sleps when animal magnetism flowtided. About that there a certain Rabal Herr for posts deceared her medical attended by allowing him to excise headreds of medica from the many signature by allowing him to excise headreds of medica from the many signature she appointly required to food. Branda, who was at that time physician to the count designated to food. Branda, who was at that time physician to the count, designated to food. Branda, who was at that time physician to the count, designated to food. Branda, who was at that the physician to the count, designated to food. Branda would not be a state of the queen. Taking off his court, he informed flow that he intended to magnetize for, which would compel have to admit everyphing. She selvent, and Branda left the room declaring that her string told him all he wanted to have (Rocket. According to Malatri, on Ballam army-surgem, Peanched, him recently proposed thinks that the treth could be account and in this way.

In other cases the resistance can only be overcome by suggesting a false pretries, as I mentioned on page 133. The order will then be more until obeyed. I will shoose an example from Liggeois. A subject was to be induced to steal a watch. He refound. But when it was represented to him that the watch was his own, and that he would only be taking it back again, he immediately obeyed the command. Or the subject may be told that the tree are altered, that stealing is no longer panishable, etc.

The raphasations I have already given do not exclusively concern movements and aptions, but delusions of the senses and other suggestions as well. I have oben seen unpleasant and improbable suggestions arrived when contary over

succeeded.

I once wold a subject who was furty pears old, "You me now thistoen pours old." He manusced, "No, I am forty-me." But discept after he scenpfed the suggestion that he was twelve at fouriers pours old. However, I fulfiel to make him believe he say thirties years also he refree the suggestion. He was appreciated and focusied the random thirties. He was appreciated and focusied the random that thirties was no unlarky number accounted for his resistance; in that account he would not be distress years also.

The experimenter may unconsciously increase the resistance. Foress and Segard rightly maintain that many hypnosis may be continued or put an end to by the tone in which the operator speaks. If we say to a subject, "Try to open your eyes; they are first closed, you cannot possibly open them," the kind of emphasis may alter the effect. If the emphasis is laid upon "Try to open your eyes," the last part of the suggestion is more easily overcome, and vice vend. It is just these causwhich show clearly the gradual transitions from the lightest stages to the deepest. I raise a man's arm; the arm remains raised so long as I say nothing. Directly I tell him that if he tries to drop his arm he will not succeed, he does it nevertheless, though at first with some stiffness. This alone shows that the state was not quite a normal one. In this case, as in many others, the subject passively allows his arm to remain as it was fixed; he makes no effort of will either for or against, But the moment I induce him by verbal suggestion to make an effort of will, by does so, and shows that he can exert the will against my orders, even though the hesitating movement plainly shows that he was somewhat influenced. It is the same thing with continued movements, which are sometimes made passively without an act of the will, and sometimes cannot be inhibited by the strongest effort of will, as I have explained

above (mage 77).

Although the above examples show that store is no complete loss of will in hyperosis, set in all of them the will was set in action by some external impulse. Let us ask whether spontimeity, an independent activity of thought and will, the presence or absence of which was utilized by Durand do Gens in his classification of sommembulists, may not exist in hypocois, apart from external impulse. This question must be surveyed in the affirmative, so far as the first group of hypnosis is concerned. But the hypnetic often shows independent activity of the will in deep lopposis, hallocinations even arising without external suggestion. But the question is complicated by the fact that we are not always able to exclude external stimuli. For example, without any suggestion from me, a hypnotic suddenly jumps up and says that he has seen and heard a mad dog. The exist of this is the unintentional creaking of the boots of one of the people present. I had not observed the creaking, but as often as it was repeated the same result occurred. The subject misinterpreted an imprestion of hearing, which aroused a certain chain of thought in him. I have often observed such phenomena in impressionable and lively persons.

But I have found spontaneous ballucinations in the deepest hyperoses, which I was anable to refer to any stimulus of the senses. In particular, any events which had much occupied the subject in the waking state, continued to affect him in hyproxis. One of them, for example, related ascedetes which he had recently heard. While his mind was full of them no experiment could be made with him; he was as uncomfortable as a direr-out who only feels at one when he has get rid of his while stock of stories. In this and other such canes there must have been independent mental activity; at least I could never discover any external stimulus. Of course I connot mathematically prove that these spontaneous aerons did not arise from some external inspulse; for the external impulse might have been some faint cound which I failed to hear, and even the slightest friction of the skin by the clothes may act as a stirming and induce apparently independent actions in the subject. I do not believe this, but have rather gained the impression that hypnotic subjects in the does stage

often have independent currents of thought. Simplements has published the case of an otherwise very chaste woman who became filled with sexual ideas when hypnoxised. Similar cases have been reported by other authors, and Vogt specially points out that sexual feeling often occurs spontaneously in hypnoxis. I take this opportunity of mentioning that dentities are well aware that lady-patients are often consinced that they have been musualted when anoutherized, although them were no possible grounds for the accusation. It is quite certain that some persons are liable to such amost aggrations when hypnotized. In recent works dealing with pathological hypnosis such cases are put down to hysteria. Hirschlaff, for example, does so.

Himself distinguishes several kinds of beyonds satisfy using the deeper grades—(a., the second group in Man Demoir's classification.

(1.) A form in which the subject bank power of distributation. Here auto-suggestion correctly is external suggestion, but the auto-suggestion is not, as otherwise often occase, a much of untermit suggestion; so far from bearing may direct commercion with the experimenter's intentions, it is supposed to them. It such came the hyposotic, for example, orders to carry out superiments with which he is already acquainted and which he has prepared blanch to make by pre-hyposotic auto-suggestion. For instance, when told that his are well become quite stiff, a subject will raply brotage,. "No it won't I am use going to make any experiments." Or a byposite is given a piece of paper and told that it is a tablet of chocolate; but he rapides with a large, "It is a piece of paper. I have going well believe that pur some going to repeat this experiment, for make a few modulum not to be caught again."

(2.) Altimizated hyperotic sleep. This is characteristed by the hyperotigenic means and methods employed particularly a normal or abscurat state of sleep instead of the hyperotic which was expected. The sleep-may set is with lead resource. Such persons calmot be influenced by suggestion, and make other sportaneously with a terrified start, or when update to gently. In mostive group of mass the awakening is not so easy because the subjects are in a deep, encountered the period of the late pathological steep which is also observed to occur sportaneously in hydrom. A wakening is clinically as over money usually produce no suppression.

(i). The hydrer-hyperol stree, as Hirschielt terms cretain conditions, bring his contention on Fired and Brown, though he may the term in a same what different terms to those nations. In this case factual of normal hyperons the hyperons measures produce more or less severe hyperinal conditions, pulpitation of the fewer, himsoughs, convolute accurance grid crying, smaller of hydrois of the severest matter, satisfaction and betaugh states accompanied by hos of measure,. Occasionally these phenomena only against as a complication of hyperon.

(4.) Sportnerson manufaction. Here the hyproxi is apparently messal at first; then there is a twee or less saiden, sportnerson, but expressorited nations of excitences, generally of an entire cod, in which

The subject with refers to some remote event that had at one time occupied

his mind and passed him great moutal exchement,

According to Himselate, all these abstract union are only not with in hydericals. The chief changes which differentiate these from second desphasis use, (a) decrease or review assistion of aggressivity, (i) the speciateous appearance of certain phenomena, (i) instead difficulty in awakening the subject, and (i) just appearing materia, as above inventable trends.

I myself believe that some of the states which Hirsehlaff ascribes to absormal hyperods have nothing whatever to do with hyperesis, even if they do occur in hypercial experiments, For a person who is being hypnotized to have an attack of hysteria (Hirschlaff's third group), or to fall into a lethargic state, or for another person, who is also being hypnorused, to fall asleep and more but wake up at the elightest occus (Hirschlaff's accord group), is not hypnosis, and we are therefore not justified in considering such states abnormal hypnoses. But we certainly might look upon those cases in which the hypnoxis is complicuted by heateria as abnormal hypnoxen; though an attack of hysteria alono must not under any circumstances be considered a case of hypnosis. We might also agree to include among the abnormal hyperoes those cases in which there is pronounced auto-suggestibility, the subject either acting in direct opposition to the hyperstist's suggestions (Hirschild's first group), or else only allowing his own autosuggestion to be effective (Hirschhal's fourth group). I have described a case of this sature on page 36. Such a person will jump up suddenly without a word having been said to him, menely because he is posterned with the ballucination that a tiger is about to spring upon Nim. When this phenomenon is more fully developed we are faced by a condition which is hardly distinguishable from spontageous someambalism.

I think it is doubtful whether the cases which Hirsthialf describes in the first group only occur in hystericals, but I should certainly contest the assertion that the auto-communibulic states mentioned in the fourth group only occur in cases of hysteria. The form which hypnetic phenomena may take depends very much on the temperament of the subject. A very lively temperament often leads to auto-communibulium without there being any cases to consider the patient hysterical.

We must certainly agree with Hirsthiall that pronounced auto suggestibility during hypnesis is far more frequent among hypotrical subjects than others. But it does not necessarily

follow that it is only met with in hysteria. We must take into emaideration that external suggestion is limited by autosupposition in other cases at well. Nearly every hypostic's ansceptibility to suggestion is, to a certain extent, under his own control. A highly moral man rejects a criminal magnetion which one whose ethics are of a lower order would accept. without be disting. Similarly, oridences of crotic feelings during hypnosis are more often observed in subjects whose sessal desires are entity aroused, than in others. Such persons disclose their feelings more readily when hypnoticed than when awake, because the recraims exercised in the latter state disappear in the former. But I do not consider it proved that we are therefore justified in assuming bystema in all such cases. Even the phenomena which Hirschiaff includes in the hystero-hypnoid category, in which hypnosis is complicated by bysterical phonomena (trembling, palpitation, etc.), are not necessarily of hysterical origin; to describe them as such would be giving far soo wide a scope so the concept lysteria. Safferers from ordinary neuranthenia exhibit similar phenomena when being hypnotized; this is accounted for by the excitement which the act of hypnothing sets up in such persons.

In idealing with auto suggestion we must also bear in mind that there are certain variations in susceptibility to the experimenter's suggestions. One declares at one moment that his name is Moll, and does what I command him; directly after he is himself again, without any certain or apparent cause. Like many other subjects, he says afterwards that he perceives two appearing wills in himself, and that sometimes one, and

sometimes the other, conquest.

I have been careful to distinguish between auto-suggestion proper and those forms which are really external suggestions. This is a distinction upon which Hunchtaff has rightly minted. Many cases of external suggestion acre to be immanced of ento-suggestion, a phenomenon which plans a great part in training, to which I shall now direct my marries. The slightest significant to make a subject sepast, lates on, any action which has once been induced in hypnosis by means of external suggestion—(s, he responds just as he did to a definite suggested idea. When a hypnotic has been trained it is hardly necessary for the experimenter to state what he wishes

to be done-a gesture will suffice. For example, let a man's arm be paralyzed by verbal suggestion, then, later on, the experimenter will only have to give the slightest sign and the paralysis will reappear without being specially suggested. It may happen that the experimenter, either by his voice or by some slight insvenient, unintentionally directs the subjects to exhibit certain phenomena which could only be primarily induced by definite verbal suggestion. In this we have one of the chief sources of error, because the subject is inclined to obey the experimenter's extentions, and thus unintentionally mideads him. The subject is also greatly influenced by his surroundings, and by watching other subjects (fleetrand). Initiation is also of great importance here. I hypnotize X., and suggest that he cannot speak, at the same time inadvertently touching his left shoulder with my right hand. V., in hypnosis, sees this, and every time I touch his left shoulder with my right hand he, too, is unable to speak. Y. believes this is the signal for ions of speech. In this case I gave the signal (touching the shoulder) mintentionally. We often give the signal unimentionally, but easily overlook the fact that we are at the same time suggesting nomething, and this leads to the phenomenon produced being erroneously attributed to the rignal instead of to the idea suggested. Consequently at each subsequent experiment the hypothist is, without suspecting it, educating the subject to respond more and more scaffly to a given signal-i.e., there is unintentional training, if I may be allowed the expression, and, mercover, the particular symptom induced by the training becomes more and more pronounced.

We must, therefore, invariably consider the question of training. All the phenomena of hypomia may be interpreted fabely by any one who overlooks this point. This refers in particular to on-lookers at hypotic experiments. When hypotic experiments are shown to outsiders, subjects are as a rule selected who have gone through a hypotic training in some particular direction, and as the directions are various, the results also are various. The experiments A keeps in view a particular symptom, a, and reinforces it at each experiment; in the same way experimenter B, cultivates symptom A. In the first case a is fully developed, and a received little attention; and in the second case the reverse happens. The Breaks investigators, for example, developed the mixture movements, while others did the same with the effects of the movements on

the findings (suggestions d'attitude). He who only regards the final results and pays no attention to their gradual evolution will be inclined to believe that the two parties of investigators are engaged with different things; though it is in reality only differences in training which give a different appearance to states which were primarily identical. Each experimenter now only demonstrates such symptoms as he has cultivated by training, especially as this training commonly produces most increasing phenomena; the heightening of certain families in particular. The outsider is anaware that this is a more result of hypnotic training, and is misled. Children who repeat to strangers the piece of portry they know best, do exactly the same thing. Experimenters produce certain objective symptoms by means of training, and may one socing them for the first time is age to make mistakes. But every experimenter produces different objective symptoms one, for example, a lasting catalogoy, another a perfect echolaliz. These things strike the stranger who knows nothing about the provinces training. The gression of training is of immense importance. Many have suspected simulation because of the apparent variety of hypnotic states. This variety is really only the result of different training, if we put assit differences of character. In this respect the experimenter influences the development of the hypnosis. Unimportant phenomena such as erholalis are developed as much as possible, and are at last wrongly considered to be essential hypnotic phenomena. By training the subject learns, as it were, to "read" the experimenter's thoughts.

We meet something very similar, but make different elevanustances, in the arriving of unleasts, in which, as we know, is plays an important part. It was through averbacking this fast that Sasauf, a well-known Berlin psychologist, was led to aftest in the case of the house, "Clever blane," that the only possible explanation of the animal's present to calculate, read, etc., lay in the admission of the profile communications process tensors the owner and the bosse. As we shall see later on, Scompf tailed to see the tiny signals to which the home seconded.

A long training is not at all necessary; Delbouf amiscially induced the stages of Charcot in one of his own subjects in a very few hours. My object in making these remarks is as more against attrahating too great importance to dominate these particularly when these offer prophens apparently objection and

improvable to instant. It alreadd always be kept in mind that many such symptoms can be produced by training, and can,

perhaps, be imitated by gractice without hypnosis.

In addition to the artificial entitivation of certain symptoms, "training" also means the production of such particular modifications of hypnosis as are seen after frequent repetitions of the state. As has been said already, it is sometimes necessary to make several attempts before the hypnosis appears. Hussey, in 1821, said this with regard to the tragsetle sleep. In other cases hypnosis is produced very quickly, though it may take several sattings to produce deep hypnosis. In one case which I have same, hypnosis with some-delusions only resulted after eighty attempts, though lighter states had been attained satting. Training not only makes the hypnosis deeper, but makes it appear more quickly. But, undoutsedly, a deep hypnosis may occurronally be induced at the first attempt; and Forci is right when he warm us against overestimating the value of constant repetition. I have often seen a subject tall into so duep a hypnosis in a minute or two on the first trial that post-hypnotic negative hallocinations could be induced at once.

But in most coses it is necessary to give the subject a hypotetic training in order to trake the state as deep as possible. For this a particular method is advisable, as otherwas the deepening is not always attained. The fint suggestions should be possible, and progress should be guideal. More will be attained in this way than by suggesting impossible situations at first which the patient will decline. And if a suggestion is often declined, there is apt to arme in the subject the auto-suggestion that he is refractory to this suggestion, or perhaps to any other suggestion. I therefore strongly recommend such a method for post-hypnotic suggestion. mun is in the hypotote state for the first time. I suggest that when he wakes he shall call me an invelting name. He does not do it, but is perfectly ready to carry out another posthapmonic auggestion; for instance, so tell one that he was quite wall. Here there is only a slight degree of suggestibility at first, but it is quite possible by frequent repetition and gradual increme to get much more complianted megestions carried out,

This concludes my review of the symptomatology of hypnosis. We have seen that the symptoms are of manifold kinds, and I may add that they are hardly eyer identical in two different persons. In spite of conformity to law, one human body is

sever exactly like another, the mental state of one man is sever exactly like another's. It is the same in hypnosis; one man displays this symptom with greater clearness, another that. We shall never be able to find a subject in whom all the symptoms are united, just as we cannot find a potient who has all the symptoms of an illness as they are theoretically described.

## CHAPTER IV.

## POST-BURNOTIC SUGGESTION.

I may already spoken several times of post-hypnotic suggestion. This is a point of such importance in medicine and psychology that it must be examined in detail. No lemous observer can nowadays doubt the reality of post-hypnotic

PARTICISION.

The old memorists observed some cases of it. In 1787 Mouilleanux ordered a lady in the hypnetic state to pay a visit to a certain person next day; the command was exactly obeyed (Du Prel). Kluge, Neiset, and Schopenhauer mention other cases. Post-hypnetic suggestion has been much studied lately, particularly by Lidbeault, Richet, Bernheim, Deboruf.

Gurney, and Forel.

Any suggestion that takes effect in hypnotis will also take effect post-hypnotically in suitable subjects; movements and defunious of the serges-itching, pain, action of the bowels, tunger, thirst, etc., can be induced. Dreams can be influsteed. "To-night you will dream that you are at Swincumde; you will go on the Baltic in a boat with six people; the boat will be upset, and you will fall into the water and wake at the very moment." The subject domains this in detail. Distanless sleep can be induced in the same way; or at least the subjects do not remember if they have dreamed. The memory can also be influenced by post-hypototic suggestion; for example, a person can be made to forget on waking some event in his past life. Later typoases can also be influenced by posthypnotic suggestion. We have already norm that subjects remember the events of earlier hypnoses in later ones; this can be presented by post-hypatotic suggestion. In the same was post-hypnotic suggestions may be obeyed in a new hypnosis. For example, I suggest to a sean that in those days' time he will again full into hypnotic sleep and will then believe he is Napoleon L.

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These post-hyperotic suggestions at first aroused much incredisity, and yet they do not present any features for which analogies are not to be found in normal life: I shall deal with this point in the theoretical section. Of course they do present certain peculiarities which I shall also return to later on.

Post-hyperotic suggestions may be divided into two groups; but I make this division merely for practical convenience in considering them. In the first the suggestion is semembered on analoming, in the second it is torgetten. It will be explained in the theoretical metion that the loss of memory in the second group is only apparent. I shall discuss the second group much more thoroughly than the first, because the phenomena of the latter follow from those of the former.

It is possible to carry on suggestions from hypnosis into waking life; they are then called continuative suggestions. I suggest to X, that my photograph is on a visiting-card, and add that he will continue to see it after awakening. When X, wakes he is firmly convinced that the photograph is there. According to Lande an illusion of this kind has lasted for two years. This entrying on of suggestion into normal life happens sometimes by chance, when the suggestion has not been rancelled before the awakening.

I suggest to X., in hypersis, that he is delaking peppennint water; I marke have, and he says that for an lumi after he has a taste of popperature in his security. To according subject, Y., I say, "You have this we depart over business of wine just now, and then we had south goods for supper." When Y. anarogas "Yes," I cell him that after he wakes he will remember all about it. He wakes and celates it all; he decimes that he has enter now much and that the wine has made his lead heavy; he even thinks hissaid alignity introducted hour the quantity of want he has dress. This is a guesty long-say involvation positional by augustion. History white are seen more intensiting rate; he says he has rever real introduction by augustion.

These phenomena may occasionally last for modes and months. However, is many cases I have seen them disappear spontaneously a short time after waking. A man who directly after waking believed that he had seen his mother at my house before the hypotesis, forgot all about it after a few minutes. We had spelces of other things in the meantime, and this probably exceed the capit oblivious.

The following ofterpeated experiment belongs to the continuative suggestions: I say to the subject, "Court up to

ten, and wake up when you get to three." He counts up to ten, but is awake while counting from four to ten.

In other cases the suggestion only takes effect after waking, I say to the subject, "You will not be able to move your right arm after you wake." He wakes, and is unable to move it, though otherwise in a normal state. Exactly the same effects may be produced other an interval of hours, days, weeks, and mouths. I say to a subject, "When you come to see me this day week, you will not be able to speak when you come into the room." He comes to see me in a week, and is fully awake when he esters the room; I ask him his name, but he is mable to say a or anything elss. Here we have an example of fulfillment of suggestion after an interval, or suggestion a triadowe, deferred suggestion, as it is called.

The moment for the fulfilment of the post-hypnotic suggestion can be decided in several ways. Here is a subject to whom I say, "An hour after you wake you will hear a polen played; you will believe you are at a full, and will begin to dance." To another, whom I wake at eight o'clock, I say, "When the clock strikes nine, you will take the water-bottle from the table and walk up and down the room three times with it." The moment of fulfilment is decided differently in these two cases. In the first case an abstract torus, an hour, is fixed; in the second, the moment is decided by a concrete external sign.

When it has been decided that the moment of the fulfilment, of a post-hypnotic suggestion shall be determined by an external sign, it is as well to choose a stimulus which can easily be repeated.

I by a cation, X., with the post-hypertic suggestion that he is to call one of the spectators a blockhead directly the conductibles. X. does not clear the spectators a blockhead directly the conductibles. X. does not clear the second that clock strikes he has an idea of what he is instead to do, but relates to put it jute action. Should I, however, instead of choosing the striking of the clock select some other stimular which the around the idea and at the same time is sufficiently larger to make a continuous, the desired result will mee be attained. For example, the suggestion will be caused out if I say to a subject, "Directly I sak my hands together who you wake an you will call that guildenan a blockhead." As some a X. is sende I mis my break ingether, and the idea of what he is intended to do immediately mean in his mind; but he parecess in testing it for a time. I then keep as solding my hands together—pushkap for a salute of more —X.'s smatters gradually scaless, and in the end he obeys the common.

A post importion suggestion will be more readily fulfilled when the moment for its execution is determined by an

external sign; but successful cases in which no such sign has been conflored are anything but race. There is often a certain amount of supprecisality is the fulfilment of a suggestion when no concrete external eign is used; for example, the suggestion will be carried out in those-quarters of an hour instead of an hour. Occasionally proceeding is very marked. Delbouf made post hypsoric suggestions to various persons by telling them to perform a certain art after so many minutes-ury, a thousand minutes. In many cases, even with persons who were otherwise not able to estimate time sightly, striking parectuality was aboven. Bramwell has made numerous concerments for the purpose of fixing the time in this respect. For example, he told a young lady aged nineteen to make the sign of the cross after the lapse of 4,535 minutes. In spite of the fact that she had forgotten all about the suggestion she fulfilled it accurately. Further experiments of this nature gave strikingly accurate results, no error exceeded five mirrator, and Bramwell ascribed all to hestation on the part of the subject. The subject was requested, in hypnosis, to transpose the hours and minutes, and did make miscalentations; but she nevertheless carried out the primary angestion couretly, sometimes even when asleep at night. At Hamon's instigation Sommer made a few experiments of the same kind, but on a smaller scale. A student was teld that he was to fell asleep when sedered; then, two minutes later, he was to talk about skating, after this his was to sit still for a mirrate, and finally jump up and shout "Hursh! for Glessen," The suggestion was fulfilled to the second. The mitject stated subsequently that he only remembered counting up to thirtyone or thirty two, although he wanted to count up to one hundred and twenty to complete the two minutes. Sommer considers that counting would enable the subject to keep to the time-limit, but that loss of memory intervenes.

I will point out a frequent source of carce in experiments of this mature: this is the behaviour of the spectators. They look at the clock at the appointed time, or make tome other unconscious signal that the right moment has arrived. I call porticular attention to this so that the time may be sectuately

observed.

The sider measurement, Name and Excherency of the comple, undeincretigations about this figure of measurable religions for county redoming time. But it is an exaggeration to emission that as a religible time is reckneed accusately. The passynality displayed by bypoetics is very like that of people who can relaximity avoide from their sensal strep at any boar they please. According to mathetic collected by Childrenney people are regulate of their time. The assesses Hauloos studied this subjective faculty for sericoning time very infurtnionly. If is simultant called the mental shock (" Explicits," De Port).

A third way of fixing the time at which a post-hypnotic suggration is to be fulfilled has been thoroughly investigated by Garney and Pierre Janes. For example, I my to a subject, X., "When I shuffle my feet for the tenth time after you wake up, you will hant out laughing." X, wakes up quite oblivious of my order, and I engage him in consensation and shuffle with my feet orderal times without his taking any notice; at the tenth shuffle he gives a loud laugh. I repeated the experiment on another occasion, and when I had shuffled my feet four times I asked X. if he beaud the shuffling; he replied "No." I went on quietly talking, and at the same time gave as more shuffles with my fort, upon which the suggestion was cannot out. In most cases, however, the result was not quite so accumate—the post hypnotic suggestion was certainly fulfilled,

but not at the right signal.

Many deferred suggestions resemble those suggestions in which the moment of fulfilment is determined by counting (Gurney). Post hypnotic deferred suggestions can be made in two ways; for example, on the 3rd of May I say to a person who calls on me every day, " On the 6th of June, when you come into my norm, you will see use with a black face, and you will laugh at me." The suggestion succeeds. But here a food date is named which helps the subject to carry out the capycation in the same way as the striking of the clock in the case first quoted. Delbomi, in particular, has pointed out the importance of this. It would have been another matter if I had made the suggestion thus; "On the thirty lifth day, reckoning from to-day, you will come into my mom and son me with a black face, etc." According to Comey's observations, suggestions of this kind succeed, and my own experiments confirm blus. An example may make this sort of suggestion cleaner. I suggested once to X, "You will come to my house on the sixteenth Tuesday, reckening from list Tuesday, and will abuse all the people present," etc. This suggestion succeeded completely, although no fixed date was named.

I have meyet only discussed the manner of determining the point of time for the carrying out of the post-hypotetic suggestion. I now come to the question, What is the condition of the subject while carrying out the post-hypotetic suggestion? Dumostpallier, Beausia, and Liegeots observed that post-hypotetic suggestions were carminly not carried out in the waking state, even if the action took place after the academing from hypotetic. The question has led to a lively discussion; and Forel and Gunry laws shown that the post-hypotic suggestion may be carried out in very different states. A few examples will make this clear to the reader.

A mm (X.), thirty years old, is in the hypnoide state. I say to him, "When you wake, directly it came my know you will take the estatuoid from the indicated from the indicated from the indicated." He wakes at my unfar, stall that him. After a former I press my limited in the indicated and hardly assesses may. He goes to the calle, takes the indicated and parts it on the classes, upon which I suggest to him that he trees his limited, that he is eating his disease, etc., all all which suggestions he accepts. I am obliged to to another him to put us and to this new state of suggestitative. After which he remains in a substate of suggestitative. After which he remains in solution in the called

This case is absorberized by loss of memory of all that happened during the post-hypotic state, and further by susceptibility to suggestion. It do not know how this state is to be distinguished psychologically from a true hypotosis, and to my mind Delboral is right when he may that to make a posthypotic suggestion is really to order a new hypotics at a food receiver and the carrying out of the suggestion in this new hypotics.

There are other very different cases. We have here a man in hypocola and I say to him. "When you analor, directly I sak my hands together you will forget your name. When I separate my hands you will remember it again." Recogniting hypocola as undered, we talk to use another, but when I bring my hands together the suspect largets his own mane. He is, however, completely assair, and incapable of accepting my farther suggestion. When I separate my himsh he known his own mane, and heaven almo that he had forgotten it a moment my. He goes assay, and is a few then we meet again t has now by separately will that the other day he may hands. But he remembers entherly wall that the other day he may several inners enable to say his own miner. He minimizes that he was hands all the time.

We are not justified in calling this case one of hypnesis. There was no mental symptom of hypnesis, no loss of memory, no suggestibility, no fatigue; the subject did not think he had been asleep; nothing remains but to consider the state a perfectly normal one, except on one point. Whether such a state may be regarded as normal, generally speaking, is another matter. I shall discuss the stare I come to the legal question for which these cases are very important, according to Bentivegni.

It appears from these committee that post hypototic suggestions may be carried out in various different states. Heaveen the two extremes—the one case in which there were all the neutral symposius of a new hypototic, and the other in which there were norm—there are many degrees which I will now

discuss.

Hereis a third cannols. A woman is hypocolists, and recovers A., and B., are primers. It mp to the satisfact, "Which A. speaks to you alles put wake, you will length or him. When B. speaks to you, you will put your image not of him. Which?" She wakes. A. speaks to him and the lamphs. I will, "Why field you length just word?" "I dod not length." A. speaks to his organity also length, and regards at my quantion she domine breing langual. She puts not be targeted at R. where he aported to been, and the immental effect when I common beet, the may shet also did not do it. I language that the heart a harvel segan, he she may the these and, and is immengatible to salest suggestions. She temperalests straything close that his languages and known posterily well what I have said to her. All that is Segretors in the post apparate set and when it immediately remarked with the just hyperic set and when it immediately remarked with the past hyperic may be sheet. She can separt what I said to her, and has replace; everything in fact, measured to with the past hyperic magnetion. She known nothing about the brief space during which the same time she successes no gap in has second on the suggestion; or the same time she successes in gap in him memory.

In this case there is complete less of memory for the posthyperctic act, and no further suggestibility; the loss of memory extends simply to the post-hyperctic act. This is, then, a third way in which hyperctic suggestion is carried out, and it is not rare.

In other cases the subject not only forgets the post-to-matic act he has just performed, but becomes susceptible to a fresh suggestion while he is carrying it out. It is difficult to distinguish these cases from those just detection; on that account I shall not make a separate group of them; for it seems that subjects like the person described in the last example are easily always uncapsible to suggestion while they are complete out the act, but that in many mace the act takes

place too quickly to allow of a fresh suggestion being made. The post-hypertic act is numplexely forgotten, while the state of the subject before and after the action is quite normal. Leignost thought this a suparate state, which he called overflow prime. He gave this up later, and now calls the state continue summer processes; Beautiu calls it reille accommodations summer processes and be considered true hypercess. Evidently the suggested idea is no powerful in them that it produces a state analogous to that in which it was first implanted. When the idea sanishes, the abnormal state also sunishes.

I will now proceed to give a frusth rate. I suggest to X, to take a chair said yet it me the table five mirrain after he water. The suggestion in custod out. While he is partiag the chair on the table I call our tendency that a sky is bring him. He believe it, theta the suggesting alway, and waters spontaneously. X, remembers moving the chair and remembers the dog, but says the whole takeg may like a figure.

Consequently this state is characterized by suggestibility during the carrying out of the post hyportic suggestion; and there is also memory. It is true X, feels as if he decamed it. He has a consciousness of having slept through the performance, and of having saked when it was ended. This constitutions of having slept in very important (Delbour), We often have some life-like experience in a dream and yet know directly we wake that it was a dream. I think the last described post-hyportic state must be considered a hypothic.

Amongst the post-legislic states we have studied—(z) a state in which a new hypnosis characterized by suggestivity case on during the carrying out of the suggestive, loss of memory afterwards, and no spontaneous waking; (z) a state in which there was not the alighbest symptom of a fresh hypnosis, although the suggestion was consed out; (3) a state in which the post hypnosic suggestion was carried out with complete forgetfulness of the act, with or without fresh enceptibility to suggestion, and from which the waking was spontaneous; (4) a state of emceptibility to suggestion with setestion of memory following, but a feeling of listing been askep. In judging of these states the chief symptoms are—firstly, the fresh suggestibility, secondly, the retention of memory; and thirdly, the teeling of having been askep. Whether the subject wakes spontaneously

or has to be again awakened is of secondary importance, as

spontineous walcing is observed in ordinary hypocon-

Gurney has directed attention to certain devices for estimating the mental state at the moment a post-hypnotic suggestion begins to act. We have seen that the renewed augmentibility is of great importance in deciding whether a fresh hyprosis has been induced or not, and Gumey has made use of this posthypnotic suggestibility for solving the question. The cabject, X., is shuffing the cardy (post-hypnomeally). He is told while he is shuffling that when the clock strikes he will jump up three times. He has finished shuffling and is quite awake. There is nothing to show that he is still in hyperonis; he is not smorepible to suggestion. He does not remember shuffing the cards, and contends that he has not done it; but directly the clock writes he jumps up three times. From this posthypnotic enceptibility to suggestion we conclude that X, was not in a normal state when he was shuffling the cards. Whether this state was hypnotic, or was another mental state, as Bestows and Gunny suppose, is writher question. I incline to think it a true hyproxis.

Gerney thinks that in order to properly estimate this posthypnotic state we must take the memory into consideration also. We have seen that subjects in later hypnoses remember what has occurred in earlier ones. If, now, the events of entire hypnoses should be remembered in the post-hypnotic state, we should consider at a feesh hypnosis. Now, I have often found that there was a complete secollection of the events of earlier hypnoses while the post-hypnotic suggestion was being carried out. This fact also fareurs the supposition

of a fresh hyperoris.

Finally, I may add that there are cause in which physical symptoms are found. The fixed look and blank expression often seen during the casesing out of the post-hypnotic sugges-

tion also justily the assumption of a fresh hypnosis.

It may be concluded from what I have said that posthypnotic suggestions may be carried out in various different states. This, I may add, in the case not only when we compare one subject with another, but when we observe the same subject under different suggestions. The questions upon which it all hingus are—(1) Does the subject remember later on what he has done, and sloes he remember the events of earlier hypnoses while carrying out the suggestion? (2) Does se feel abor carrying out the suggestion as though he had just been saleep? (2) Whilst doing what has been suggested in he susceptible either to suggestions to be carried out at once, or to new yout hyperetic suggestions? (4) How does the subject look? Has he the appearance, the manner, the physical symptoms count in hyperetic, or not?

The question becomes even more complicated when we consider the following of Foret's experiments. Forel said to a murse, "Whenever you say "Sir" to the assistant-physician, you will arratch your right temple with your right hand without noticing it." The some did so, talking clearly and naturally all the time. She did not notice that she was scratching her

face.

Here the subject behaves normally, and yet the posthypnotic suggestion is executed during the conversation with complete line of memory. When a subject performs one act with loss of memory, is this state hypnosis or some other state? I think it should be regarded as a part of normal waking life, for it would be a mistake to conclude a hypnosis from the mere forgetting of one act, without susceptibility to suggestion. Gurner points out that less of memory alone cannot be taken for proof of an abnormal state, became in normal life we perform actions and see objects without remembering them alterwards. If the action is a purely mechanical one, such as winding a watch, we often remember normor about it.

I have purposely in the last section only discussed those movements and acts executed post-hypotocally; but all sons of delasions of the senses, patitive and negative, can be induced hypotocally at pleasure. We can cause whole somes to be gone through; the subject will go to a ball, or parake of an imaginary dimer, sic. The state of the subjects during the realization of a post-hypotic suggestion may differ considerably, but in my experience it is almost a rule that the induction of a post-hypotic delasion should induce a bush hypoton with succeptibility to suggestion and subsequent loss

of memory.

It is possible, besides, to influence subjects in these states in any way. For example, we may make the suggestion than a "You will see a dog five minutes after you wake; but you will remain awake and not allow anything else to be suggested to you." The subject may in this way be protected from further suggestion; he will then earry out the first suggestion, but for the rest will appear fully awake. X and V, are at my house. I bypnotice Y, and say to him, "When you wake, X, will be diting on the chair; you will remain awake." When he wakes he believes that he wors. X, on the chair, and wike to him, etc. I call his attention to the real X, and say, "Which is the real X.? You see one on the chair and one standing before you." Y, feels the chair and the real X, to find cut which is air and which is seathy. He finally concludes, "He is on the chair." And yet Y, is not amorphible to suggestion on other points.

But even if we are thus able to inflarnor post-bypnotic acts and seme-delutions by means of particular auggosticms, it does not necessarily follow that all the details of a pest-hypnotic suggestion depend entirely upon the experimenter's suffacace. I on much more inclined to think that the state during the carrying out of a post-hypochic suggestion may rany without any such influence. Undouttedly much depends upon the purport of the auggestion. The more abound the suggestion, the more it alishes with the subject's normal way of thinking, the more likely will a fresh hypocois set in during the carrying out of the post-hypnoric suggestion. For example, X. was in a perfectly normal state when carrying out the post-hypnetic suggestion that he was to rub Im hards together occasionally when talking to me later on; but the suggestion that he was to take my purse out of my pocket induced a fresh hyperatia. The nature of the action appreciated undoubtedly exerts a great inflaence in determining the state induced, and to it we must add the character of the subject. I certainly do not think we are justified in earliestedy attributing all the various states observed to the influence of the experimenter, or to maining.

In what precedes I have discussed the state of the subject during the carrying out of the post-hypnotic suggestion. It will not take long to consider the state between waking and the execution of the suggestion. The subject is then nearly always fully awake, and the state is, in fact, as if he had been sakened without previous post-hypnotic suggestion. However, there are some cases in which the wakening is not complete so long as the effect of the suggestion lasts; this occurs particularly when the suggestion is repugnant to the subject's character. Such subjects look fixed and sleepy, and when pastioned, often say that they are not quite awake but still half-sukep. I have had cases in which I was obliged to cancel the suggestion before I could completely awaken the subject.

In other cases I have observed a subjective discomfort instead of a feeling of fatigue, until the suggestion was executed. This dibjective discomfort is sometimes felt without the suggestion being carried out. One lady to whom I had suggested that the should put a book on the floor wake in great discomfort, but it did not occur to her to yut the book on the floor. She recovered herself, however, when, at my request, she had put the book on the floor in the waking state. Another subject complained of twitching in the arm after waking; I had suggested to him to give me his hand when he woke. He did not do it till I asked him again in the waking state; before that he was aware of nothing but the twitching. I have, however, never observed evidences of disconfert when the post-laypostic suggestion had a therapeutic aim. It is obvious that the discumfort is caused by the conflict waging in the imbject's mind, even when at the threshold of consciounces; and, of course, there can be no question of such a straigle when the anggestion less a therapeutic aim. Köhler declares that etween waking and the execution of the post hypnotic suggestion, the subject is invariably in one or other of two abnormal states—the one an obvious, but exceptional, form of hypnosis, the other a peculiar state of intermations hypnosis. By which Kühler means that the patient remains hypnotized from the beginning of the experiment to the execution of the suggestion, or else in an exceptional condition in which he can carry on a entional conversation until he suddenly falls into a fresh hyprous. The abnormal state terminates directly the posthypnotic apportion is fulfilled. Nevertheless, I consider Kohler's views on this question erropous-at least they as little agree with the results of my own observations as they do with those of Lorwenfeld and others.

There are, of course, immension cases of post-hypnotic suggestion in which the suggested act is not performed, many persons being able to offer a more or less successful resistance. It constimes even happens that a hypnotic rejects a suggestion during hypnosis. Many entry out only the suggestion to which they have assested (Pierre Jares). Scripture reports a case observed at Brown University. The post-hypnotic suggestion was given to a person to pressure a always like reach, "feether" instead of "father" on being awakened the was often saked about her passets, but always avoided using the word "father," speaking instead of "the building

of my mother." Pitrus relates an interesting case of a girl who would not allow him to wake her, because he lad suggested that on waking she would not be able to speak. She positively declared that she would not wake till be gave up in neggestion. But even when the suggestion is accepted to such, a decided resistance is often expressed during its post hypnotic cocurion. This shows itself as often in slow and linguing movements as in a decided reliand to perform the act at all. The more repugnant the action, the more likely is it to be omitted.

As in all the above cases of post-hypoteic suggestion the commend was not persembered, it is particularly interesting to observe how the subjects try to account for their execution of the suggestions. Naturally, we shall only here consider those cases in which the action is not inconductely forgotten, in the others, subjects do not try to find seasons for actions which they have forgotten.

Let us take an example, I may be a hyporticed stance, "After you wake you will take a book from the table and put it on the book-half." She wakes and does what I table her. When I not her what also has been chang, the mayous that also has moved the book from the table to the shelf. When noted for her square, the assessm, "I do not like to the deat! When noted for her square, the assessm, "I do not like to the divide or mainly; the shelf is the place for the book, and that is why I put it there."

In this case my commend had to a definite action being carried out; but the subject does not reasonber my suggestion, believing that she has so acted of her own accord, from love of order.

Let us go on with our experiment. I suggest to the re-hypermised subject to take the back from the their and log it under the table, which she does. I sak her why she did it; also can give to remove. "It came about my load," the abover. I report the current several store. To a new request for her remove the family replies, "Something made me feel at If I must put the book there."

In this case the subject, who at first believed she was acting freely, came by degrees to recognize the restraint put upon her; she, perhaps, suspected the suggestion, but was not sure of it.

Another care. I suggest to a bypassion from to are an intelling expension to one when he wakes. He wokes, and after a passe of a

few records, during which his face aspenses on inward struggle, he calls out, "Donkey?" When saled why he so makes me, he makes many exercise, not captains, "I fait as if I must say "Donkey!"

Here we have to do with a paradoxical action; the man knew at once that constraint was being put upon him; the woman who performed the simpler act above only perceived the constraint after several experiments. However, in a great number of cases the result is different.

We have here a Apportised subject to whom I say that when he welets he is to take a flower-pot from the window-sill, wrap if in a cloth, purity on the soft, and how to it three times. All of which he does. When which he this restoon he assurers, "Von know, when I work and say the flower-pot there I thought that as it was nather cold the flower-pot had letter to manned a finds, so she the plant would die. So I wrapped it in the cloth, and then I thought that no the sols were rear the fire I would not the flower-pot on it; and I howed because I was planted with myself for having such a bright iden." He added that he cill not consider the action feeling, he had taid on his remove for so notice.

In this case the subject carried out an about peat hypotic suggestion; he was unconscious of the constraint put upon him, and tried to find good reasons for his art. Most experimenters have observed that their subjects try to find reasons for having carried out even the most foolish acts suggested. This mental process so frequently follows the execution of a post hypotic suggestion that some experimenters have come to look upon it as the rule—but such an assumption is un-

doubtedly amoneous.

We then see that when subjects are questioned as to their motive they make different answers; they either believe that they have so acted of their even accord, and insent reasons for their proceedings, or they say they felt impelled to act so; or they only say, "It came into my head to do it." We can the suggestion here also. When the original suggestion is being made, it may, at the same time, be suggested to the subject to believe that he has acted of his own too-will (Footh, or to believe that command was put upon him. When such a suggestion is not made, it depends upon the subject's power of self-observation which reason he gives—whether he perceives the restraint, or invents take common for his conduct. Some thing also depends upon the frequency with which the experiment is made, and particularly on the greater or lesser abundity

of the suggested act. This endeavous of certain subjects to find a motive for their apparently free acts is very instructive, and has, as we shall see, a certain value in determining our conception of free-will from a perchological and philosophical

BOING OF VIEW.

Post-hypnotic suggestions are of especial value for the induction or presention of finere hypnosis. In this way an cavity hypnonicable person may be prevented from allowing himself to be hypnotized by another subject. Post-hypnotic ourgestion is an excellent meant for protecting susceptible people and gunding them against encaperfed hyproxis, in Rieard pointed out for the communitatic state. Mr. X., whom I had often hypnomied, had also often been hypnomised by Mr. A. I suggested to X, that he should in future only allow himself to be hypnomical by electors, but on no account by Mr. A. After this Mr. A. could no longer hypnotize him. However, I do not believe that this is a perfect protection in all cases. But the chief danger, which does not arise from tittespainlifty to hypnotism, but from susceptibility to hypnotism against the subject's will, is thereby guarded against. On the other hand, it is possible to throw a subject into an onesperied hypaneis by means of post-hypnotic suggestion. I say to a subsect, "Directly I say the word "to-day" you will fall into a fresh lopnosis." I then wake him, and he remains awake ustil I say "to-day"; upon which he is instantly thrown into a fresh byggnesia.

It is difficult to say for what length of time the carrying out of a past hyparotic suggestion may be successfully deferred, since this depends on the subject's character and the method employed. The longest post-hyparotic suggestion I have even was executed at the end of four months; no hint had been given to the subject in the meantime. The longest which has ever been described, as far as I know, was in a subject under Liépouis and Liébourlt; in this case exactly a year shaped before the suggestion was carried out. The case of the photograph, mentioned on page 10s, in which the photograph remained visible for two years is enther-different, as it appears that the suggestion was often socialled to the subject's passency. The case mentioned by Dai Pouro is, perhaps, of the same lend: a person who was afraid of themberstorms was runed of the fear by post hypnotic suggestion. The effect is said to

have lasted twenty-ux years (Belfiore).

I have behere only discussed those post-hypotic suggestions in which there is less of memory after waking from highmon. This loss of themory greatly favours the carrying out of the suggestion; but it is not a necessary condition, for post-hypotic suggestions are often reacted in spite of the memory remaining silact. These cases are highly interesting, became the companion can be better observed in them. The subject knows that his action was the result of a hypotic suggestion from which he could not escape. Semetimes suggestion only succeeds with difficulty and after a long struggle, in consequence of the subject's resistance and control of his consciousness.

Our of my colleagues, a ductor, was in the past hyperia state; I suggested absential provinces to the with access; some defendent that not record. I teld him that after he wide in would be usuable to any his mean whenever I taid my hand on his feerboad, and further to tay his mean whenever I taid my hand on his feerboad, and further to feel to the more than the work from the tegental, whenever I put my hand on his ferchent he midd his name was Medl; he have his right name also, but was another to my more was Medl; he have his right name also, but was another to my more was medical my order after It, and did not believe to my approximal force; he have that the effect was mental, but could not help hissorit.

It is the name thing with sense-delesions, they can also be produced post-hypnotically, in spite of the fact that the suggestion is remembered. It is true that the affect of the sense-delusion in such cases is often not to be seen, because, as the order is remembered, reasoning is possible, and thus the suggestion is negatived. Nevertheless, sense-delusions with remembrance of the suggestion are rares, because loss of memory more frequently follows hypnosis with sense-delusions, even though the loss of memory can always be prevented by post-hypnotic suggestion.

## CHAPTER V.

## COGNATE STATES.

We can often advance the study of a state which has hitherty been little known and examined, by comparing it with other states with whose symptoms we are better acquainted. We will, therefore, try to find points of correspondence with hypnosis. The very earne shows that there is a resemblance between sleep (hypnos) and hypnosis, and some investigators (Lichardt, Bernheim, Brullard, Porel, Vires), consider hypnosis an ordinary sleep. They think that a person who falls asleep spontaneously is in rupyout with himself, while a hypnosised subject is in rupyout with the person who hypnosised nim; in these view this is the chief difference between sleep and hypnosis. I believe, however, that we cannot so easily agree to such an identification of the state; we must begin by

dialinguishing the light and deep hypnoses.

We see that in light hypnosis them is merely an inhibition of voluntary movement; consciousness and self-consciousness are unaffected, and what happens during hypnosis is usually remembered. Now, in sleep there is always a great decrease of self-consciousness. But it is just this self-consciousness which senains intact in light hypnonis; and in this state the subject is purfectly aware of all that goes on, and, as a rule, forgets nothing on waking. Comequently, I do not think we can make a close connection between sleep and superficial hypotonis; nor do I think it possible to make a fruitful companion between these light hypotoes and the states of drowsiness and fatigue which precede sleep. In any case, a feeling of fatigue is not uncommon in these bypnotic states. But this is not always the case, and we have seen that the less of voluntary movement, or its subjection in a greater or loss degree to the influence of the experimenter, is one of the chief phenomena to hapmonia. There is barelly a hint of this in the drowey state; cortainly there is a general beautiness in the limbs, but it

is not of a mature to inhibit every voluntary movement; and the loss of voluntary movement in Seep is not subject to the influence of the experimenter as it is in hyprosis. Further, these light hyperetic states are distinguished from the earlier stages of sleep by the decreased activity of consciousness in these latter. The current of ideas, of images of memory, is less under the control of the will; seme-impressions do not develop into conscious ideas in the usual way; much that generally excites our interest and attention is simulticed and overlooked, while there is often reverse independent of will. But about all this is entirely absent in the light hyprotic states, in which any the soluntary movements suffer statege.

I cannot being myself to consider a subject merely "askep" so long as his contocourses and mil-consciousness remays intact. There are, certainly, many investigators of a different opinion. Vogt, for enample, even goes so far as to call anzesthesia induced by suggestion a state of partial sleep. According to him, all sleep depends upon some form of inhibition, which may act in and disappear with equal suddenness, may be leasened or terminated by a periphenal stimulus, but never attains the intensity of a real outbreak such as we meet with in cerebral disease. The annesthesia induced by suggestion often presents these characteristics, and Vogt, therefore, calls it a state of partial sleep. Sollier holds similar views on the phenomena of hysteria. In his opinion, every hysterical person is more or less a communicalist. For example, the somministic state in such cases is the result of amenthesia, and Soffier calls the termination of the angethesia waking. According to him different regions of the brain participate in the production of sleep. But, as I have already mentioned, I do not think we are justified in associating each conditions with sleep, although in common parlance we speak of a trub being asteep. Sother's views, which are also be'd by some other investigators, may be accepted for to a certain extent by the fact that he and his adherents attribute all functional activity to definite cerebral processes. The holders of such views are consequently inclined to speak of junial sleep when certain portions of the hody cease to functionate. But, from a psychological point of view, we must not speak of sleep unless there is some estential disturbance both of conscioumess and self-conscioumuss-

The case of deep hypnosis a essentially different. It is

characterized by sinne-delinions which are just the same thing as our nightly dreams. In order to carry out the comparison, a will perhaps be well to consider the mode of origin of dreams is ordinary sleep. Dreams are divided into two classes, according to the manner of their engin (Spitta): (1) dreams induced by nerve simulation, and (2) diesans induced by association of ideas. The first by far the most numerousare induced by a pempheral stimulus of the nerves, affecting the brain. Here the stimulus is certainly felt; or a memoryimage arises as well, and a perception sessits. This perception does not, towever, correspond to the actual stitution. Wast memory-image will be aroused, and what dream will result, depends upon many factors which for the must part except our observation. Consequently, the memory-picture aroused by a stimulus attaches mell in a number of cases, but not invariably, to a proviously existing dream. "When an orator dreams be is usaking a speech, he takes every noise for the appliance of his imaginary bearers." Desaus which are called up by nerve stimulation often occur accidentally. Spitts relates that he once dreamed he was a gymnast. In the dream he was thrown to the ground, broad, and boiling water possed on his left foot. The irrention thus produced was so unbearable that he awoke. His explanation is that he was very tired that night and forgot to take off his left sock, and the weather being very warm, the impation set up by the sock caused the dram which frightened him. That dreams can be artifically called up by nerve stimulation has been demonstrated by Gorgory, MacNish, Manry, Leismer and many others. If a alceping man is sprinkled with mater he will dream of a shower of rain. Manry states that when Fau de Cologne was held to his nose he dreamed he was in Farina's shop at Cairo. Mounly Vold you the limbs of certain of his patients in a fixed posture before thus fell asleep, by landaging their liands and feet together, and was thereby snabled to demonstrate that an enforced position influences the nature of the dream. This is in accord with an observation previously made by Child, that desauactivity is influenced by artificial changes in the muscular sense. I have taken these statements from the unergy of Sante de Sancia, who made many lavestigations into the question of antificially induced dotams. In some of his experiments, Same de Sanctis placed a minical clock under the pillow of his sleeping subjects—the latter his son, a piel, and

an imbedie. Pleasant dreams senited, and the subjects united in their sleep. A melantholy air caused the imbedie to rak on eaking what had been done to him; and, on our occasion, the gol dreamed the clock was playing marial masse. Deficious persons (violets, believage,) gave the experimentar's son playant dreams. According to Sante de Sancto, dreams can undoubtedly be influenced in the manner indicated, although a particular stimular does not invariably produce the same results when repeatedly applied to the same subject, or similar counts when a different subject is closen.

The second kind of drams are drams from association of ideas; they are supposed to follow on a primary central act. The memory image is supposed to be caused by some primary central activity, and not by a peripheral stimulus. We may certainly place by the side of domais from association of ideas the forms of auto-suggestion which I have traparatly mentioned in the foregoing sections, and which I have thoroughly discussed on page 15a, and such a companion is especially permissible in the case of those auto-suggestions by which Hirschiaff considers abnormal hypmosis specially characterized.

Between these two classes of dreams there is another, which I may call suggested dreams. In these no standard in applied to the nerves of the subject which he may work out at his fancy; but a dream is suggested to him verbally. An acquisintance of mine told his daughter that the ure rocks, apon which she dreamed of them and related her dream on waking. On other occasions the attempt falled. This was already known to the old measurests, and their knowledge must be in nowise understool. Kinge gave an account of nich observations - "This medion is made in many places of an English officer who could be made to dream anything walled, by softly whitpering to him. On one occasion, he was made to dream of all the phases of a duel, from the beginning of the quarrel to the firing of the piston which had been put in his hands for the purpose. The report of their discharge woke him." Same de Sauctis made usural experiments on his nine-year-old son when alleve, by whitpering certain words in his ear. On three distinct occasions the word "pale" was used and the child wake up a minute after. In two of the three cases there was nothing in the dream which could be attributed to the word employed, with certainty. Once, however, the child woke up frightened, and when asked what he

find dreamed, replied that he had had a borrid dream. "Pape, I thought you were seeding me, and I trembled with fright, because you were quite pale with angen." On three other occasions, Sante de Sanctis schapered the word "tink" into the boy's ear. Again, there was no result in two of the cases; but in the third, the boy dramed that it was time for him to go to whost and that he had not finished the very long task that had been set him the previous day. It is also consparatively speaking easy to call up dreams artificially in the case of persons who hubimally talk in their sleep; have, we must take it, that the waking person intimates bimud, so toapeak, into the alceper's thain of thoughts, which he is then alale to influence in their course. This often succeeds, as we shall see later on. It appears that as for as ordinary sleep in concerned, corrain stages are more fixed for suggested dreams than others. The transmional stage lictween waking and deepsleep, which the French will the hypragogic state, is particularly noteworthy in this respect. Havelock Kits, Manageme and others have called attention to the suggestibility of subjects in this state, and Delbusaf ascribes to it a sole of particular importance in the causation of servous and mental diseases. He supposes that such multidies are of auro-suggestive origin. and that they develop themselves like post-frypaotic sugges-Librat.

As regards the mode of origin, these suggested dreams are identical with the suggested sense-delusions of hypnosis.

But the mode of origin of other dreams in sleep pours in hypnotis also. I have already spoken of dreams from association of ideas, which are analogous to the auto-suggestions of a hyperotic subject. This is particularly clear when we compare the hallocitations induced by nervestimulation to p. 152 with them; these influeinations are identical as to made of origin with duants induced by serve atimulation in ordinary sleep. I byprotting X, and repeatedly blow with the believes close to him, without speaking to him. The blowing causes a central excitation, and X, believes be bears a steam engine. He dreams he seen a train, and felleves he is on the platforn at the milesy eration at Schöneburg. This is exactly the stone thing as a dream produced by nerve templation, in which the falling of a chair makes the dreamer think he hears a shore fred, and dreams he is in battle. Besides, in hypoten as well as in sleep, such stimulians, as a rule, enomously swerestimated, as Tissić points out! a slight noise is taken for the report of a gan, and a postle couch with the hand for the bite of a dog. I draw on the table without speaking; the subject hours and dreams of military music, thinks that he is in the street, and sees soldiers, ste, etc. Tissic mentions that in sleep visual impressions seldous lead to dreams, since we insulty sleep in the dark and with our eyes closed. We can, however, produce dreams in codimary sleep with the help of any source of light. It is interesting to find, revertheless, that many investigations on sleep show that the servous stimulation comes preferably through the ear, as in hypnosis (Mary Whoton Calleins).

One thing is clear from the comparisons I have made; it is a mistake to think as many do, that all intercomes with the ounside world is cut off in sleep. Indeed, the opinion that by far the greater number of drenns are induced by sense-stimuli has its adherents (Waralt, Wayganda). This receptivity to stimuli which reach the brain, amregulated by the consciousness and mistakenly interpreted is a phenomenon of both sleep and hypnosia. Further, it is evident from what has been said that the method employed to make external suggestion in twomeon often outfices to induor dreams in sleep. At the most, there is only a quantitative difference, since usest sensedeligations are directly suggested in hypnesis, while in sleep from see caused by some peripheral stimulus which undergoes a special elaboration in the brant of the sleeper. A qualitative distinction a not here possible, although Sully separates elemp and bypnour on the ground that dreams arms in the former differently from hallocinations in the latter.

Consequently, the purport of dreams as well as the way they originate, is alike in sleep and hypnoris. But, as in sleep we believe curseless in another situation, and encounter all norts of sense-delesions, so is it is hypnoris. And as a subject in hypnorise can be replaced in earlier periods of his life, so in dreams also. Many habitally dream that they are again undergoing the final examination at college many years after. Complete changes of personnelty also take place in dreams. An efficer who greatly admired Hammon, told me that he had dreamed his was Hamibal and had fought an imaginary battle in that character. Another man was even less modest, he once dreamed he was God and was moing the world.

We cannot decide whether there is more dreaming in hypnesis than in sheep, because we can never know with certainty how many dreams happen in sleep. While some my that dreams only occur during a short period of sleep, others, like Kate, Forel, Exerc, and Simonia, go so far as to deny that there is any sleep without dreaming: they say that dreaming is continuous, but that must dream are forgoties. Josifroy, also, considers that so invariably dream when asleep. Bigelow does not think that dreaming has been proved to be continuous, but he is convinced that the mental activity is as unlessum to sleep as it is in the making state. Vaschide, with whom Nincke agrees, likewise thinks that sleep without dreaming hardly ever occurs.

In spice of all this, so can find a difference between the phonomera of deep hypotosis and of sleep in several points—

(1) In the apparently logical connection between the suggested dex and the hypototic subject's own thoughts; (2) in the movements of the subject, and particularly in his speech, since there may be a conversation between the experimenter and his

subject.

With regard to the first point, we have seen (p. 133 # 264.) that a series of ideas cometions links itself logically to another particular idea. Consequently, the difference between hypnonis and sleep is not a fundamental one. Even if this linking is, on the whole, merely mechanical and the result of habitual association of ideas, it must be admitted that the power of discrimination is not entirely in alterance in hypnosis, but can, as we have seen, display a certain amount of activity, Still, the whole connection can be broken at any moment by engaction, as I have those; in the same way the whole current of ideas may change at any moment. It appears, at once from this, that the independence of a hypnotic subject is very limited. The logical connection mentioned above lasts only as long as the experimenter permits. In the dreams of the night, which Radestock selers entirely to the pame is logical thought, there is not estably such a logical connection. because it but rarely happens that they centre in a definite idea as in hypnotic suggestion. In hypnosis the attention of the hypnotic subject is directed to the experimenter; the ideas given by the latter are accepted, and retain a certain amount. of supressary. In sleep the most diverse sensations are conducted to the lumin; as the sleeper's attention is not totally directed to a special point, it is much less easy for a definite idea to gain supremary. Glesslee points out how

early a dreamer's personality can be changed. When a change of character in hypnasis is braught about by suggestion, the inbject does his atmost to play the part suggested; on the other fund, as Giessler again points cut, a person who is merely decarring environmenty transfers the experiences, characteristics, titles, functions, and occupations of others tohis own dream eps, and without effort. I will not go into details of examples. It is known that Voltaire wrote poetry in sleep, that mathematicians sometimes solve problems when atteep, and that the celebrated physiologist, Bunlach, worked out many scientific ideas in sleep. It is said of Agastic that he salred the problem of fossil fish which he was engaged upon, in a night-dream (Bigstow). Hack Take reports that the interances of a person who is documing that he is disputing with some one are not invariably illogical; and he relates that one night, after having taken part in a lively discussion on spirituaises, he had a dream in which he worked out a series

of experiments with considerable segmen.

I mentioned the movements in hypnosis as a further contrast between this state and sleep; but this assuredly forms no qualitative distinction, since it is known that people move in sleep. The activity of the muscles in sleep is often an automatic continuation of movements begun awake. happens, s.g., with people who fall asleep in making one particular movement; they continue the movement in sleep. For example, couchmen will go on driving, and riders will bold the beidle without falling off. Birds fall asleep standing, and aquatic birds go through the motions of swimming slowly with one foot when saleep, which shows that a group of relantary muscles can be in a constant state of activity. In all these cases the muscalar action is very like the contractions and continuous movements described on p. 77. Henle has pointed out in his Lectures on Anthropology that muscular action is almost beyonably present in deep. Physinlogists term this activity tenus; it mables a sleeper to assume and maintain a position which could not be controlled without muscular action. Slipping slown in Ised is a symptom of extreme exhaustion in typhoid fever.

Besides this, external stimuli may cause movements during sleep. It must not be assumed that they happen apart from mental activity. If part of a alcoper's body is asconssed, he will draw the cover over it; if he is tickled, he will scratch the

place. Even if these are regarded as physical refleces without only accompanying mental action, which is not proved, the case is essentially different from the storements which children make in sleep, at command. If a child is told to turn over, it will do so without wiking. This is an act which, as Ewald towards, may be fairly compared with the phenomena of hypotosis, in which storements of the turne kind, if greater in eatent, are made at command.

Such movements are much more frequently caused by dreams. It is well known that children often laugh in pleasant dreams. A lady I know dreamed that she was blowing out a lamp; she made the corresponding movements with her mouth. She was awakened, and related the dream which had no doubt caused the movements of the mouth. Every one knows that children in especial often scream when they are dreaming of

something exciting.

These movements are much more evident in the case of the persons we call communications, sleep-walkers, night-walkers, with whom they are characteristic. The resemblance between hypnonis and somnambulism is so great that the name somnambullimit is used for both (Riches). Hypnotium is called artificial sommendulia, or, better, spontaneous sommendulia, eince artificial sommerbulin is really as natural as the other, as Poincelot insists. As a rule, someamholis is divided into three stages according to the extent of the movements exhibited :- (1) that in which the sleeper speaks; (2) that in which he makes all sorts of movements, but does not leave his bed, (x) that in which he gets up, walks about, and performs the most complicated actions. In my experience the first two stages are found in persons of singuing temperament who are certainly not in a pathological condition. It is not yet finally decided whether the third state appears under pathological conditions only, as many still assume. From my own experience I am inclined to think that it is occasionally observed when there is no constitutional weakness, especially in children. If we want to show these states, we can invariable

<sup>&</sup>lt;sup>3</sup> Bewavegui and Wandshane very properly termed the condition another. Locks material of assessmentation, and other analysis. Himself of conwepts, have recently accepted the change. The termination "limits" when applied to other foreign would algebra an acceptation, acteur, or the like, and are a state of condition. In the following pages I should others to the terminology employed by the authors I bate mentioned.

do it with the healthiest subjects. As regards the movements in sleep, my own experience is that the persons who are most zentless in natural sleep, who talk, or throw themselves about, are the most inclined to lively movements in hyproxis. In any case, the movements are also displayed in sleep. Consiquently, the movements of subjects in hypnosis do not offer a fundamental contrast to sleep, especially when they are esused

by suggested deletions of sesse. Spontaneous communitalia is obviously very near akin todeep bypoosis, even if we extreme that the non-occurrence in hyproxis of those wild and illegical flights of fastry which occur in dreams constitutes a difference between the dreams of alorp and hypotic engrettions, and it is exactly in spontaneous somnambula that we find something analogous to hypnosic. It is evident, if we draw conclusions as to the contents of a somnambalist's dreams from his movements, that wild flights of thought may be absent in dreams; for sonely we know that a subject of spontaneous someambalia above commonces an action which is quite logical, and carries it out in his sleep.

The fact that a subject in hypotosis can carry on a conversation is not enough to mark of hypnesis from sleep, as Wernich (moneously supposes, for many persons answer questions and obey in sleep (Loter, Bérillou). According to my experience and that of others, certain persons easily answer in sleep when some one they know well speaks to them. A child will speak to immather, and budfellows to our another. A conversation is easily carried on when the waking person follows the sleeper's chain of thought and insimutes himself, so to speak, into his consciousness (Brandis). A lady I know, A, dreamed sloud of a person B. When Mrs. A.'s husband talked to her as if he were B, he was answered, but when he spoke in his own person he was ignored.

Finally, there are many persons who can hardly be induced to more in hyproxis, though they can be made to disam anything. Here the resemblance of casp to hypnons is

particularly atriking.

I hope that what has been and makes it clear that deep hypotonis need by no means be sharply distinguished from SHOOTS.

As regards post-hypnotic suggestion, which is a very important phenomenon of hypotosis, we find that sleep presents

not only many points of essemblance but even apparently identical phenomena (Liebenalt, Eoner, Santa de Sanctia). Of course the effect of night dressus upon the organism is not so easy to observe as the effect of suggestion, so must dreams are forgotten. Still there are exceptions. People who dream of a shot, and wake in consequence, continue to hear the reverberation clearly after they wake (Max Simon). Others after waking feel a pain of which they have been declaring (Charpignon). Aristotle maintained long ago that many of our actions have their origin in dreams. To this class belongs a case reported by Saavet and Morean de Tours in 1844, in which a man in ordinary aleep had visious which gradually influenced him in waking, and induced him to abandon his home. Toming mentions a rather inconclusive case of a woman who was induced by a dream to do tomething. Of course, such phenomena are very difficult to observe, but it is very probable that dreams have an after-effect or even thoroughly healthy people. I will merely mention certain phenomena which resemble these—the dreams that are communed into waking life, which may be compared to consimulate post hypnotic suggestions. There are well-known wield dream images which are not recognized as dreams, and which are taken for reality even after waking (Beierse de Bonmont). It is certain that even the most enrightened persons are influenced by dreams. Many are out of homour after having been annoyed by unpleasant dreums. The experiments lately made by Herrwagen have proved that persons who have decamed much are in an understant have of mind the next day. I know of patients who are much worse after dreaming of their complaints; a stammerer will stammer more after dreaming about it. It is probable that erotic dreams belong to this class, because even when they terminate with the emission of secren, they stimulate, sather than inhibit, seeml desire. We find analogies with post-hypnotic suggestion everywhere. There are well-known cases in which persons have dreamed of taking an aperient with effect. Perhaps a case mentioned by Ferri may also be referred to bece. A girl dramed for several nights that men were running after her. She grew daily more exhausted, and the weakness in her legaincreased until a hysterical paraplegia of both legs declared itself. Narke insists on the legal aignificance of dreams. Hysterical girls have oben declared that they had been raped

although they had only dreamed it; and is a timilar way chronic drunkards have been list to accuse themselves or others of murder. According to Nicke, whenever a bysterical or neurosthesical or otherwise persons person, or meet particularly a drama and, makes a definite statement we must invariably be on our guard, and bear in mind that there is always the possibility of a right-dream being continued in valcing life. Nacke adds that Schmitt refers the acts of pyromanucs to their drams. To dream of fire has such an influence on them that they feel compilled to set fire to something when they are awake. Nacke, however, doubts whether this view is justified. In other cases the etemocrion between a dream and the subarquent phenomena of waking life is different, and the phenomena could only be enquerially attributed to the dream. We shall see that there are pathological phenomena which are more readily perceived in drawns than in the waking state. I shall seturn to this point later on. Occasionally, there is a connection between the phenomena of waking life and drains, but it has nothing to do with the phenomena described above A young lady tells me that she is always in a bad temper in the morning if she has been awakened in the middle of a pleasant The interruption makes her irritable,

Post hypnotic suggestion finds a special analogy in those decame which influence the first appearance of mental discree. Trennumy has pointed out this connection in his work Le Rive prolonyl. Like Klippel, he calls attention to the care in which the dream is continued in waking life and there causes delivers by disturbing the normal course of ideas. Onfriences is the name given by Regis to those states in which a person is the victim of a profonged dream. When one into occurs at night the symptoms are disturbed alcep, nightmate, delinions of the senors-especially of vision-excitement, delirism, As - a rule these phenomena disappear when the patient wakes, but in severe cases of onirion they continue after waking. Long ago, morrover, alionian were struck by the connection between Griesinger relates cause of drams and mental disease delirium which began in dream and did not show itself in waking life till later on; and in acute manua it has been observed (Esquired) that the prount thinks be has been codered in a dream to do something which afterwards he actually does. Hoheform reports that the first outlineak of monta often dates from a homible and alarming dream, and that the prodominms idea

dreams.

is connected with that drawn (Frend). Of course, it is explicable that in many each cases the drawn was lest a symptom
of the disease; nevertheless, Sante de Sanctis has in accent
times directed his attention chiefly to the question whether the
drawn might not be the cause of the minual disorder. He
points out that Baillarger has observed cases of delinion
among from hyperagogs. Influeirations, and that statements to
the same effect have been smalle by Briefler de Brismorn,
Maury, Falter, and others. The Sulprimire aciseo), sine, luts
additiond miny facts which help to explain the connection
between drawns and the delinion of an amack of hyperia.
Chaolin, too, cites cases from his over experience and from the
literature of the subject, and concludes that although it is true
that every case of delinion does not originate in a drawn, and
is not recreasily influenced by one, yet such cases occur much
more frequently than we think.

As the result of his own experience and a careful study of the material to hand. Saretis has come to the conclusion that dreams and mental disorder are very closely connected etiologically. An exciting dream may so perturb the mind of a prodisposed individual that he will appear distracted for a time, or a digate may set up a case of realizationly or a phase of alternating (circular) instruty. According to Grislain, a maniscal condition may have its inception in a dream, and an insure idea at visual billucination be developed unconaciously from divam-life or the hypnagogic period. Something dreamed may be held to be an experience of scaling life and than become the origin of the prepondenting idea in negatiomania, persecutory manis, as religious manis. It seems certain that more than one psychogathic state can be called up by

In discussing the manner in which dreams induce mental disorders Sanctus distinguishes two cases. To the first a dream map art like a mental trauma. Here the mental disturbance which empas is to be counted a transmit mention or psychosis, or a state of exhaustion. We must bear in mind with Fried that even if the dream images are false, the dream ferlings are true, and that the physical changes stought by a docum are so great that a dreamer may be very powerfully inducated by them. The consequences of the excitement their produced may easily penint in the subsequent waking state, even when this Secting small has disappeared. Toulouse, consequently,

likens the way in which a mintal disorder follows a dream to a powerful agration. Sometimes, according to Sometis, it is the ecceptual exhaustion caused by a dream, and not the excitement during the dream, which is the etiological moment in producing mental disturbance in waking life. According to Sanctis, the second way in which drawns may reoduce mental disturbance extends over a much greater area. These are the mass in which the waking consciousness takes over the "deam-staff." It is not necessary that the moroid size should immediately follow the dream; there may be an interval to greater or leaser duration, thought in other cases dream-images may be continued into the waking state, just as we have seen happen in continuative post-hyperotic suggestions. Such cause have been described by Tusic, Manacina, Manry, Bricere de Bolsmont, Barllarger, and others. Cases in which a definite belief is acquired thing a dream bear even a greater resemblance to post-hypnotic ungression. Although the condition produced is as a rate only a passing ear, it semetimes happens that the "belief" induced takes root in the waking state and leads to acts corresponding to its nature.

What has already been said should suffice to show the close connection between sleep and hypnosis, a subject upon which no mean light is thrown by the close resemblance of poshypnotic suggestions to the after effects of many a dream

Although, in we have seen, thep bypnous and ordinary sleep are closely related, and especially as regards dreams stand very close to one another, we must not therefore accept the identity of sleep and hypnosis. Decams are only our symptom of sleep; we carnot, consequently, regard a conquerison of dreams and suggested hallocisations as sufficient to demonstrate identity. I believe that even in deep hypocone states we have clear grounds for manifolding that the condition is not identical with alony; for in order to assert an unconditional identification we must take into consideration not only the payciological image, but also the physiological symptoms. Now, we know that during sleep the pulse, the respiration, and other bodily functions are clarged, and exhibit a greater regularity and productation. If we do not find this in deep approximate it is a prior that the physiological condition in lowtroom is not identical was that in sleep. Francke finds, indeed, that pulse, propression, and thin secretion those greater regularity, but his observations are not commercial since he

tells us unthing more definite concerning the other symptoms of hypnosis as he observed it. In any case, however, Francke saw a remarkable resemblance between the curves of sleep and hypnesis. I have only seen in a few cases of hypnesis that slowing of the respiration and palso observed in sleep; I believe therefore that the state to which this is not observed. cannot, on the grounds abendy mentioned, by identified with sleep. Ceitain pathological conditions argue an even wider separation of sleep and hypnosis. The spinin of chores and the termulous movements in paralysis agitams cease in ordinary sleep. I have byprotized patients softening from these diseases without causing the movements or tremore to come. Certainly other observers state that they have seen the spassi of chorea stop in layeness, and this circumstance is utilized as a proof of the identity of hypnosis and sleep; still, that is not sufficient, I have never asserted that chonsine twitches can never be brought to a standstill in hypnosis. My remark refers to typical chorea at its arme. In such a case I have never seen the spains cease in hypnosis, any more than I have seen the tremors of palsy stop in the numerous cases in which I have attempted to being hyperotic influence into play. That the spann of chronic chores, or of an acute attack which is subsiding, can be industried in hypnesis is beyond all manner of doubt; but the same result is often obtainable when such patients are awake. If, however, alony and hypnous are to be considered identical, then the spasms of typical choica which cease in ordinary sleep ought invariably to stop in hypnoxis also, and without any form of suggestion being employed. Upto the present I have pover seen this happen. If other authors have obtained other results, any objection to the identity of hypnosis and sleep fails as far as these cases are concerned, best does not in the feast justily us in assuming a general identification of sleep and hypnosis.

From various sides (Bernheim, Delboeaf, Max Hirsel) it has been accounted that the hypotone mitiger is not along but that he believes he is indeep, that the filmion of sleep produces the increme of suggestibility. A somewhat different, and perhaps, more correct view, has been expressed by Schrenck-Notting. He divides hypnosis into those in which there is no along, those in which there is no along, those in which there is no along, those in which there is

in which actual alcop in present.

The similarity of the resurs used to induce sleep and

hyperosis is often insuced upon as a proof of their stentity. But a distinction must be made. It is ead that monetosous sumul induce both sleep and hypnosis. Purking, therefore, thought that Braid's methods would produce sleep. But we should never conclude an identity of states from the identity of their causes. We almuid observe whether their symptoms are identical. I have seen cases in which the subjects fixed their gaze, but did not concernate their attention. The subsergaint state was an ordinary sleep, out of which the subjects awoke when I made verbal engagestions to them, however soltly I spoke. It is the arms thing when we wish to decide whether a tediom speaker hyperotizes his audience. Many people grow sleepy or even fall asleep, in such a case. I consider the state one of ordinary sleep produced by the subject failing to comcontrate his sitention. If he concentraces his thoughts on the speaker, he will not go so sloop; in this case his state of partially strained attention much resembles approxime. If the state is strongly marked, negative full action to may artise, for instance, with regard to noise, as in hypnosis. In many works on century, even in Cicero's, this affect of a fine speech is referred to.

Similarly, those states of loss or disturbance of consciousness, induced by vertigo—e.g., by spinning sound quickly, should not be reckoned as hypnoses. Endmann has identified the states induced by vertigo and by tolium in his well-known importious manner.

Once more I must repeat my own views it does not matter how the states are produced; the point is whether their

symptoms are alike.

Hypnosis has often been compared to mental disorder as well as to sleep. Rieger and Senal, as well as Hack Take (so far linch as 1865), called hypnosis an artificially induced mental disorder of short district. In the first place I would remark that it is of no consequence what hypnosis is railed; a name goes for nothing. Even in thempeuties this is a numer of no moment, otherwise we should have to retrain from using morphic because a is a posson, and became the sleep induced by norphia in an effect of poisoning. Freud is right when he says that ment does not lose its flavour when a rabid vegetarian rails it carriers slay should a mental influence, such as we have found hypnosis to be, lose its talue or interest because it.

is semutious called a mental disease? A remark of Griminger shows how capriciously all each terms are used; he thinks a somewhelm of abort direction is a sleep, and a larger one a mental disorder.

I should raise my objection to our calling hypocois a mental disorder if we also regarded sleep and dreams in such. And we find that when alternits wish to discover analogies to mental disorder they always have recourse to decause but no investigator has engintained that in order to loss one's amity it is only pocesary to go to sleep. To illustrate the resemblance which dreams bear to mental disorders, Freud, following Radestock, points to encorrects made by express philosophers. Knot called the imane digamers who were awake; and Schopeshauer declased that a dream was a short maria, and maria a long dream. Wandi, in his Physiological Psychology, expresses the view that when we dream we experience all those phenomera met with in a multiouse. For this reason even Radistock concludes that mania, an abnormal morbid phenomenor, should be considered an exacerbation of the periodically recurrent dram-state. Tremanay points out in a work I have already mentioned that a number of allenists have expressed similar Moresu de Tours has written on the identity of the dream-state and mental discoder, and Delastrare has observed dreams which approached one/legion neutrals. Schelle considers marin the orniogue of the physiological dream-state. Delinius of toxic origin-r.g., alcohol, his recently been classified among disasse by various wybers-Lasigue, Klippet, Regin. The two latter by special stress on the troop origin of many forms of delirium. Régia, for example, considers the delirius of infectious diseases the deliniam of a dressn caused by took action: for him it is a kind of day moud, malogous to the hypnotic state. Like sommarshulists, these sleepers, as our milities call them, on waking often setain but a confessel. recollection of what has happened; nonetimes the whole dream is forgomen. Regis finds even greater junification for comparing coair delimins with the state of consciousness in fagments in the fact that although the memory of the ayents of such delinion is lost on the patient's waking, it can nevertheless be restood in bygnamic

It follows from the foregoing considerations that drawing and mostal disorder are analogous in many respects, and from this point of view there can be its objection to our comparing hypcosis to mental disorder. But the most dissimilar mental disorders have been compared to hypcosis, which shows what confesson there is about it. For example, Rieger and Konrid say that hypcosis is mothing but an artificial madricus. Meynert maintains that it is an experimentally produced imbeculty. Loys compares it to general paralysis of the meane, Bevan Lewis to stupor. These different comparisons show the want of manimity among the authors, for the forms of mental disorder we call imbeculity and manis are as unlike as a per and a rose,

which are both plants, but of atterly different kinds. When bypnosis is thus compared to mental disorder it is generally forgotten that susceptibility to suggestion is the chief phenomenon of hypnosis. But it is a mestake to think that susceptibility to suggestion is an essential phenomenon of mental disorder; if it were, montal disorders could be cured by suggestion, but this is hardly ever possible. He means of suggestion in hypnosis, forms of hypnosis may be induced which resemble mental derangement-e.g., spontaneous mania, or melancholia attonita, besides forms of imbeddity, etc. But we can also induce paralysis and stammering by suggestion, and yet hypnosis is not a state of paralysis or of stammening. We can suggest pain in hypnosis, yet hypnosis is not a state of pain. And how the light stages of hypnosis in which only motor effects are caused by suggestion can be called states of mental disorder is not clear to me, unless a person is to be called mentally amound simply because he cannot open his eyes. But eyen the susceptibility to suggestion which exists in such mental disorders as deligium tremune (Moetl, Pierre lanet), or the katatonia of Kahlburm (Jensen), must not be without farther coremony identified with the sunceptibility we and in hyproxis; and we have just as little right to reakon mental disorders in which there is a fixed idea as beginning merely because of the fact, to which Komfold and Bikeles have called attention, that such fixed ideas in cases of megalomania are very easily influenced in hypnosis. We often see that a fixed idea can be guided as we please. But none of these states has anything to do with the susceptibility to suggestion met with in hypnotic. I need only say "Wake!" to the hypnotoed subject, and at once the state ends | but there is no mental disease which can be corled at a moment's notice like hyprosis.

It is no new thing to see hyperasis brought into connection

with, and regarded as, an artificial bysteria or neurosis. Demarquay and Ginard-Teuton have pointed out analogue, and Charcot later on called his three stages a grande software Aypostiyes. Dumontpallies also thinks that hypnosis is an experimental neurosia. I would make the same remark upon this as upon the mental disorders. In hardly a dozen cause has Charcot called up the complete type of a neuroin, and specially of hysteria, by suggestion. This was comparatively easy in his cases of grande dyuthric, because phenomens which are common in the subject in waking life are more easily induced in hypotosis than others (Granus). Effects's description of hypnosis as induced hystero-epilepsy is to be met with the same objection. I repeat, it would be easy to suggest stammening, and then draw the conclusion that hypnish is a state of statemening. We might possibly recognize a somewhat closer relationship between the hypnotic state and par of the phenomena of hysteria-yes, stemambulia, provided, of course, that we consider the latter a hysterical phenomenon. I have already pointed out the striking resemblance of upontaneous semeambelia to deep byponeds, the only form of hypnosis of which there can be any question here. Merenhe-less, as I have already explained, the assumption of Charact's yupils (Guinon, Stephanie Feinkisd) that spontaneous somnumberium only occurs in hysteria, or perhaps epilepsy, has not been established. The spontaneous someambelia of persons who are neither hysterical nor epileptical presents exactly the same analogy to byposis as does the someanbulia of the bysterical. For this reason my comparison between the somnambulia of an attack of bysteria and hypnosis has no significance.

Other states have also occasionally been compared to hyproxis. I may mention catalogsy, a disease, or symptom of disease, in which the limbs keep any given position; and bethargy, a strange state of sleep, in which artificial awakening is difficult or impossible. That the preconsciounness in letharge, as in Charcot's letharge stage, is only apparent, is shown by an observation of Entrause, who in a case of this kind was able to produce awakening by suggestion. Thousan's disease, in which a contracture follows voluntary movement, is also compared to hypnosis, and to are epileptical disturbances of consciounness. I may also mention the phenomena of incusioalities by alcohol, obligoform, other, opions, and has chiech, which are

often compared to hypnesis on account of the delisions of some which occur in them. Haschisch interiention has lately been described in detail by Regla. There are many phaneriens in this state which we call hypnosis, and suggestibility can go so far as to produce a change of personality. Regla has made experiments on himself, and on one occasion, for instance, believed that he was a pregnant woman on the eveof confinement. Narcolepsy must also be mestioned. In this disease there are periodical attacks of sleepiness. It has been described by Gelineau, Rousseau, Ballet, and others. Certain cases of what Drondow calls market Arguelling, whose resemblance to hypnous is momittakable, may be included in this tolerably undefined marcolepsy. These states might be regarded as auto-hypnoses, as intimated on p. 40. Vinisli has published an account of an auto-hypnosis in which he sucreeded in making even post-hypnotic inggestiom. Naturally, the ferminology is very arbitrary in these cases; these states might be ascribed to apostaneous sommaniselia arising directly out of waking life, and not in sleep, as usual. The famous case of Motet, which was so important from the legal point of view, would then belong to this class. A man committed a criminal act in a state of auto-hypomia, to which he was subject. On Moset's recommendation he was neguined. A case of Dafay's is nearly identical. It would be extremely illogical to call hypnosis a morbid state merely because a morbid imitation of it is found in many forms of survive became. It would be as great a mistake as if we were to take yawning for a disease because there are people who suffer from attacks of yawning (Ochoronice). Cases of disturbance of consciousness (delinium, partial amnesia) after accidents have also been published; they would be described by some (MacDorold, Wright) as cases of traumatic hypnotism, atthough there could be no question of any typical hypnotic phenomena. Lata often resembles bypoton (Restian, O'Beice, Forberly. The word first properly means the sufferers from this complaint, not the disease. The disease is found among the Malays; the patient unitates every movement made in his presence, as in "fascination." The same thing has been seen in Mains among the "Jumpers" (Beard), and in Siberia, where the sufferers are called "Miryachit" (Hammond). Obersteiner mentions the interesting observation of Kaschin that a troop of Siberian soldiers repeated all their commander's orders

without obeying them, and even instated the threats which he

uttered against them.

I lately had an opportunity, at the large Arab bospital at Cairo, of seeing a case which drabiless about he mentioned in this connection. The subject was a negress, home thirty years of age, then in the hospital. Besides her own negrosongue she understood some Fornch. The chief symptom of her disorder was that while she sat passisely in the same place all day long the repeated whatever was said to her, whether in her own language, in Founds, or in any other language of which she knew nothing whatever. I made trials with German and other languages; even difficult sentences she repeated mechanically, the first time morally with emissions, but when she had again gone over one, every cyllable was clearly uttered. She also instated movements to a certain extent. If I part out my tongue she did the same, if I showed my teeth she also showed hers, if I clapped my hands she clapped hers, though after a longer interval. It was, however, generally first necessary to attract her eye before performing any action.

Once more, the chief feature of hypnosis is increased susceptibility to suggestion. By means of this we can indice counterfeits of all seria of discuss, which appear identical with the real thing. But some the less, hypnosis should not be identified with these discusse. The two characteristics of hypnosis are suggestibility and the power of ending the state at pleasure. We do not find them united in psychoses, nor in sourcest; but we find them in sleep, in which many dramm are induced by suggestion, and from which the subject can be awakened at any moment by an external stimules. Although no identification of hypnosis and sleep would be justifiable on the above grounds, I must again point out that they are closely related, at least to far as hypnoses of the second group are

concerned.

The surious pherenners of hypothes have also been observed in normal waking life, and this makes a comparison of the hyproxic states with other abnormal states considerably more difficult. For example, a symptom which A, shows in hypothesis be does not show in his normal state; but it may be observed in BA's normal waking life. People differ greatly in their susceptibility to suggestion in waking life. I have spokes (p. 64) of suggestions in waking life from which hypothic

cannot be concluded. Besides which, a number of planomena, of suggestion, which are generally regarded as a peculiarity of hypnome, have been found in waking life. Beald, the American electro-biologists, Herney (1853), Heidenhain, Berger, Riches, Lésy, Bentheim, Bestunis, Liegeois, and Forel are among those who have made observations in this field.

These phenomena are shown in waking life by subjects who have been hyprostited as well as by those who have not. Contractures, purelyses, databases, and other kinds of moser disturbances can be induced by suggestion in the waking state. According to some authors, it is even possible to induce

halfucleations without hyprusis.

Nevertheless, many of the experiments, and particularly the conclusions drawn from them, seem to me to have two defects. Those who talk of suggestions in the waking state (segretions o totale) forget, first, that alcep is by no means always indispermitte for many hypicotic suggestions. Authors often confuse hyperonic with sleep. We have seen that the light hyperonic stages do not much resemble sloop; consequently, we must not conclude that a state of contracture, etc., is, or is not a hyprosis because it resembles alcep or not. The second point which these authors generally overlook is this; they think that hypnosis is excluded in these cases of waking suggestion, became some of the most methods of inducing hypnosis have been used. But the methods are not absolutely necessary for the induction of hypnosis. We cannot make the question, whether hypnosis is present or not, depend upon the means employed; we must always consider the state and its symptoms separately. For if we take a certain degree of suggestibility, loss of memory, etc., for a symptom of hypotosis, nothing remains but to regard as hypotoses many states which are frequently described as suggestions without hyproxis. The chief phonomenon of hypnosis is, as we see, that a certain accepted lides has a tendency to lead to a movement or a delesion of the tensor, etc. We have further seen that the experimenter can change the arbject's dominant idea very quickly-i.e., he can suggest one thing quickly after another. If, then, we can do the same without apparently previous appearance of hypnosis, we must call the state a hypnosis all the same, particularly if there is subsequent loss of memory.

In earlier, a hypocologistic method is employed, became in such experiments the subject generally remembers an earlier

hypososis, and the idea of hyposisis in enough to induce it. Therefore we often need only to repeat a suggestion made in an earlier hyposis to cause a new one (Bentivegri, Marin).

The fact that paralysis, continctores, etc., can be quickly produced by suggestion in this new hypnosis shows that it is as real as the first. In the deeper states, when delinious of smae can be induced, loss of memory usually follows. The changed expression of the subject's face also shows there is hyperesis. Finally, the presence of a real hypnosis is proved in many cases by the sustant between subject and experimentar.

For the reasons above mentioned, I think we should call many of these states true hypnoses, not suggestions without hypnosis. The school of Nancy, and particularly Liegeon and Beamis, have only partially acknowledged this. They thought many of these states were intermediate forms between hypnosis and waking, which they identified with the public seasons having

described above (p. 167).

It sums not, of course, be concluded from what has been said that all these suggestions only succeed in hypnosis. I am far from mying that. My explanation aims only at pointing out that there may really be hypnosis in the so-called sugges tions it only, though none of the mual methods (e.g., those of the Nancy school) have been employed to bring it on. Moreover, we should always endeavour to prevent suggestions in waking life, and especially to make delimions of the semes impossible.

It is often difficult to decide whether there is hypotoss or not, because the question is sometimes more one of subjective perception than of objective proof. I may refer here to a case of Carpenter's mentioned by Finlay. A gentlemme placed his hands on the table, and for half a minute directed his attention to them. When the suggestion was made to him, in decided tones, that he could not remove his hands, he was in fact unable to do so. I have frequently observed the same thing, especially after hypotoc exhibitions. I ture, for instance, seen inability to move a limb, to withdraw the outstretched tongue, or to close the mouth. New suggestions, however, only succeed after the attention has been drawn to them for some time.

These are even delations of the senses without hypnosis, aloop, or mental disorder, when circumstances influence the mind in a particular way. The common hallocination of smell in an example. People often heating that they still smell things which have been removed. Deletation of sight are just an common. Many people have taken brees for men when withing through a wood in the twilight. Goethe's self-induced ballacinations of sight are well known. Deliberal also describes a waking hallocination of sight; he thought be saw his dead mother, but operated his impression by reason. If there are even delesions of the senses without hypnosis, it is reidently thifteelt to argue the operance of hypnosis from a single

The following are the rhief points to be considered in settling the question whether a suggestion is made in hypnosis of not:—r. Of what kind are the suggestion? Are they of such a hind that they rarely occur normally? z. After one suggestion has succeeded, can other suggestions be made as quickly as in hypnosis, or is a long preparation necessary for each suggestion? The quick success of the following suggestion would be in divour of hypnosis. z. After the suggestion has succeeded, can the subject prevent a further suggestion by an act of will, or not? If he cannot, it favours the supposition of a hypnosic state. 4. Is there early not? That is, can the subject he influenced by only one person, or by anybody? Reptors farours hypnosis. 3. Are there bodily symptoms of hypnosis? 6. Are the events subsequently forgotton? Lors of memory also favours the supposition of hypnosis.

The many immittenal states between waking life and hypnosis will often make the question difficult to decide; tone of the points above mentioned will alone safter to settle it. The cases of fascination and analogous scates of normal life mentioned on pages 73 and 74, show that there is no very sharp line of distriction between hypnosis and waking life. From this we can see, on the one learnt, the resemblance of many of the phenomena of hypnosis to those of waking life, and, on the other, how difficult at is to decide exactly where

hyproxis begins.

States resembling, or perhaps identical with hypnosis, are also found in animals, and can easily be experimentally induced. The first experiment of this kind is untilly altributed to the Jesuit father Kircher — the so-called experiment or 1646; but according to Poyer, it had been made by Schwenter several

years earlier. A ben is field down on the ground; the head in particular is pressed down. A chalc-line is then drawn on the ground, starting from the bird's beak. The hos will semain motionless. Kircher ascribed this to the animal's imagination; he said it imagined it was fastened, and consequently did not my to move. Much mentions Kircher's experiment in his book, Erdontein and Jertson, as a proof of the case with which an experiment may be enonemaly interpreted. For a long time the chalk-line was held to be the essential part of the experiment, producing some far-reaching mental action on the part of the hen; later on, however, it was shown that the experiment could be successfully performed by messly holding the hen down on the ground, and the challeline was consequently but of secondary importance. Corrust repeated the experiment on different arimals, and amounced in 1879, that a hypnotic state could be induced in other animals buildes the hers. Preyer shortly after began to interest himself in the question, and distinguished two states in animals -causeless, which is the state of fear, and the hyperatic state. Regnand observed that when dynamics explosions took place in the water, fish that were not in the tramediate origibleouthend of the charge would lie as if dead, though a slight south would restore movement. Laborde found the same true of trout, which could thus be caught. Heutel, Richet, Discheusky, Ricger, Gley, Verworn, and Micheline Stefanowska, besides the authors mertioned above, have occupied themselves with the question.

Most of the experiments have been made with frogs, crayfish, pained pigs, and birds, and by Verween with the backed sinks. I myself have made many with frogs. This much is certain: many animals will remain motionless in any position is which they have been held by force for a time. There are satious outsions as to the menning of this. Purper thinks many of these states are paralyses from fright (estaplexy), produced by a midden peripheral stimulus. In any case, they recall the estalepsy of the Salphtnian, also cannot by a strong external stimulus. It is said a solden Demonated limitlyth produces the same effect on a cuch that it does on hysterical patients (Richer). But in general, the external stimulus med with seinals in tactile, as in suddenly sinning them. Headel thinks that these states in animals are a true aften following on the countries of the external stimuli, and Wardt scens to agree

with him. River has shown that the flog will remain rigid when upright, if kept from falling, as well as when bying on its back. The hind leg of a frog lying on its back may be pulled out, and the animal will not draw it in again as it mustly does Richet, beorever, says that it is drawn in again at cook if the spiral cord is divided below the audatis allongers. It is interesting that when a "hypnotic" frog is placed in a certain position it will at first more after a short time, but the more often the experiment is repeated the larger the freg lies with out moving. I have som frogs lie on their backs in this way for hours, and fittie even often seen them the without burning over. The deeper the state is, the less the animal responds to external simult, it ends by not moving to tolerably lood noises, or even menulation of the skin. Danilowicy made a series of experiments, from which he concluded that there were regular changes of reflex estricteding but Rieger was unable to confirm this. According to Davilewsky, when the cerebral beniopheres are removed the frog assumes entalepted postures, and further that the rotatory movements caused by injury to the semicircular canals of the ear disappear in hypnosis. Starting's experiments also deserve mention; abor repeated hypnotic caperiments with fouls he observed hemiplepic phenomena in them, according to a communication by Milne-Edwards to the Paris Arademy of Sciences. I may here secall the fact that Lodder once reported a case in which he considered that bypostic phenomena were associated with an attack of cerebral humiplegia.

In 1868, Verworn propounded a physiological theory of his own in a work to which he dealt with the "to-called hypnous of animals." He has formed the opinion that the states observed in maintals have nothing to do with hypnous is man, at the same time he certainly considers suggestion of chief import in the case of human beings. In his opinion, we must base our conclusions upon the attitude of the animal and the condition of its muscular system, which alone are decisive. For any particular position in which an animal may be placed, in assumes a characteristic animale corresponding to the reflex which tends to restore it to a normal position. The nunclin which participate in this sefex action remain in a state of tonic contraction. The name characteristic complexes of symptoms occurs when the animal's cerebruic has been removed, and from this very fact Verworn concludes that there can be no

question of suggestion. But the phenometon is made up of two components. The chief of these, and that which causes the characteristic symptoms, is the trasic state of excitation in that cerebral upbese which controls the reflex in question; a subordinate component is the inactivity of the motor spheres of the cerebral cortex, as shown by the absence of spontaneous efforts to rise. The latter phenomenon is brought about by the excitement produced by the experimenter's manipulations, and is also made manifest by acceleration of the respiration and heart-beat. This view, therefore, has something in common with that held by Preyer on paralysis from fright. Micheline Stefanowska, who has made numerous experiments on frogs and considers a frog in a state of inaninian particularly predisposed to hyprastis, holds an essentially different opinion. According to her, all these states are byproses, and she even thirths she can recognize the symptoms of Charcet's stages in the case of frogs yet her experiments in this direction, and their results, have not produced any constituting impression on my mind, in spite of their interest and value and the many new facts concerning the life and physiological characteristics of the foog, which they have brought to light.

Another sense of observations which were cheefe made for practical purposes may be mentioned bern. They also may be regarded as hypnotic phenomena. For example, the socalled "Balassiren" of horses, introduced by the cavalry officer Rahasa. This process has been introduced by law into Auvril for the shoring of hones (Obersteiner). It consists cliefly in looking fixedly at the borse, rase as in "fascination." Other suchorities - Glasson, for instance - have stated that resting horses may sometimes be checked by hypnotism. Lépisoy gives a détailed account of hypnotism in respect to houses, and thinks that hypeotic influence can be brought to bear upon them. In particular, he thinks that vicious and renivaherses can be southed by music, and in this he is supported by Guenon. I shall deal later on with the case of "Clever Hams," which recently proved such a painful pitfall for Stumpl in Beilin, Hans' feats being attributed to hypnotism. Beung is said to have hypnotized care and pigeons, and Stoll believes that in other ways we work by suggestion on our domestic minute. He regards the influence of the rider on the horse or the male, especially when particular tricks have to be combated, as suggestive, since scarcely anything can be accomplished here by brute force. A kind of counter-suggestion appropriately brought to the animal's intelligence would thus oppose his allowances, which are of the nature of auto-suggestions. The transcense experiments of Wilson should also be mentioused; he is said to have hypnomised a number of animals—elephants, volves, horses, etc., in London, in 1839. Fascination is used by many animal trainers, whose very first principle is to state fixedly into the eyes of the animal they wish to tame. Many think that the charming of small animals by smakes is fascination. Hant and Lyang, however, believe that the animals are not hypnomized, but that, as the snake gaves at them, they hypnomize themselves. A case is reported in the Error de l'Hypnomize in which the opposite occurred—a make was said to have been hypnotized by a cat. The story comes from Madras.

Of course, in many of the cases related above, inagination plays so great a part that absolute credence is not to be placed in all the details. There is a fable of Infortaine's in which a number of turkeys took relate in a tree so as to eneage from a fox. The latter so fascinated the pour birds, which were warching him, by the gitter of his tail which he waved in the moonlight that they fell into his jaws. Thomas Will's tells a similar tale of a fex circling round a tree in which a cook was percised. The cook kept his eye on the fex, but finally fell from the tree and was devoured. In a communication to a French sciencific journal, Guimbal member all such cases to fascination.

Lightensit and Forel think that the winter sleep (hiterastica) of animals is an auto-hypnosis; and so, perhaps, is the strange sleep of the Indian fakirs, which sometimes lasts for weeks

and months (E. L. Fucher).

A number of trustworthy witnesses and authors (Jacollos, Hildebrandt, Helbeald) tell us even stranger things about these fakirs, which set any attempt at explanation on the hasis of our present scientific knowledge at defiance. Hildebrandt, among other things, relates that he saw a lakir sitting in a Hindoo temple; he was crouching down with his left arm stretched upwards; the arm was dead and so perfectly dry that the skin might easily have been torn from it. Another fakir half held his thumb pressed against the palm of his hand till the sail had grown deep into the flesh. It is said, besides, that some of these people can make plants grow very quickly.

Corres mentioned this. These fixins are also said to have been apparently buried for weeks and reanths, and set have returned to normal life. Kutto holds this to be an understood fact, the condition of the lakin being that of hypothe citilogsy. Of course, those things must be listened to with aceptical reserve. Vet even so scientific an investigator as Helbrald thinks that though no doubt there is a great deal of jugglery, yet some of the phonomena commin at present inexplicable. Lowersfeld thinks that the observations which have been made show that in the so-called Yoga deep the respiratory and circulating functions are not nearly as much in abeyance as has been assumed hitherto. Sell, I cannot belo doubting the genuineness of the Yoga sleep in the same of those natives who have been on exhibition in Europe. Than it on good authority, that two of these people who were supposed to be asleep, and "strictly watched by a committee of scientists," were playing cards with a third man a good way from the place in which the committee alreaght they were "storping." The agent admitted this swindle to my informant:

Many other observations recorded by ethnologists and travellers show striking resemblance to auto-hypnotic conditions. Stoll records many such facts; as, for instance, the auto-hypnotic state of the shumans or pricets of various. Sterian peoples, as recorded in the travels of Palias and Genetin. An Armenian physician, Values Armonny, mentions a disorder which attacked a whole race, the Eridi, in Armenia. When any of the people were brought to a spot and a circle drawn round them with a stock, they would rather the than step net of it. There would seem to be some suspecion of a separatition in this case, but it may have been a matter of fascuration.

I have purposely made but best mention of these matters and of the experiments with animals; details would take me too for.

## CHAPTER VL

## SIMULATION.

As is well known, hypnosis has only lately been generally recognized as such. Sement has pointed out for how long a time the most children objections were mixed against it. For instance, when Clocquet performed a patient operation on a patient whom he laid magnetized, Mahru immediately raised the objection that, so far from the parient having bean magnetized, he was in a state of come which had nothing to do with the "passes." The opposition seen west as far as to access persons emethetized by hypnosis of simultation. But in the end the most obstitute doubters—or, at least, those of them of any accours—were compelled to admit that there is such a thing at the hypnosis state. Consequently, when discussing simulation I have not to consider whether there is such a thing as hypnosis at all, but whether there is simulation in any posticular case.

Those who deliced is hypernia were for a long time reported as deceives as deposed. It was arrangedly less hartly appoint that a even who besief kimself with hypeotism must be refining from some loss of mental fatimer. Latterly, Mendel, in a popular ferrore, but expressed homest in this sense. He thinks that many men have given proof of their own puthological state in their autobiographies. Metalsi certainly currilisms on corners, but judging from the confect it is evident that he refers to those investigators who have described their own personal equatiences of hygoresis. His charge would apply to such men as Forct, Bleaker, Obsessminer, as well as to Wandt, who described his own case of autocommon factions, and to many others. If Mendel's diagrams is control, then all the men mentioned must be looked upon as parhological specimens where spinious are not to be taken regionaly. Such a method of artaching applement of remains is a more insention on Mendel's part, and cannot be tor severely organized. Even a new paper of very moderate views put down Membels method of emissyony at outside the bounts of legitimate minetific discussion. The messages in question added the lumbal remark that it was alreage that Membel, who completed all persons who easied out hypomic experiments to be of amound mind, should have related how he had performed many such experiments himself.

In the first place, I think that simulation is much carer than is generally believed. It has been too much the habit to look for one physical or objective symptom which could not be simulated, and actile the question of band from its presence or absence. And yet this is exactly the opposite of what is generally done in judging of mental states. When we want to diagnose a case and decide whether it is insarity or not, no authority on mental disorders would suppose frond simply became some bodily symptom was about. He will consider and weigh the case as a whole. Even when each symptom taken arpurately might be fraudalent they would be weighted against one another and a diagnosis formed from them. If the doctor also finds some symptom which cannot be simulated, he will weigh this too, but he will not conclude traid from its absence. It is true that in this way the conviction may be only subjective, or eather it will be clear only to those who have studied mental disease. The outsider may often be able to raise the objection that this or that symptom may be frigurd; but no specialist would allow himself to be influenced. by this.

If we apply this to hypnosis, which is also a mental state, it follows that only he who has studied byposes practically is in a position to diagnose it, although many a person who has no knowledge whatever of hypnotic experiment considers that he is able to judge of hypnotime, express an opinion on it, and demand consideration for his views. Kron and Sperling have very rightly contested this assumption. It is not correct to diagnose fraud in hypnotism from the absence of a certain physical symptom. Even if each organite symptom may be feigned, the experienced experimenter will diagnose by summing up the different symptoms and comparing their relation to each other. It is satisfactory if he finds an unfeigealile symptom besiden; this is an objective proof, convincing even those who have no practical knowledge of hypocais. But we must bear in mind that objective physical symptoms are more seldom found in hyprusis than in mental diseases. The first is a transitory mental state, in which objective physical change is less likely to occur than in mental

disorders, which last for months and years.

However, we must, of course, try to find physical symptoms in hypnesis. Many authors have done so, Charcot in particular. Not only did he lend the weight of his name to the acceptance of hypostium, but he is also to be credited with having searchest for objective symptoms. We must, however, remember that the school of Nancy sought for objective symptoms and found them, though different from Charcot's: I mean the blutters, etc., produced by suggestion. It is, consequently, errorseous to consider that the examinal difference between the two schools is to be found in the spacetion of simulation. To exclude fund we look for symptoms which cannot be voluntarily simulated; it is indifferent whether these are produced by suggestion or not. There are symptoms which are produced by suggestion, and which are independent of the subject's will. Herein her the chief difference between the school of Nancy and that of Charcot. The Nancy school believes the try the expendent of the will; while the school of Charcot finds boddy symptoms which are independent of the will and of suggestion—e.g., the increased section sourcement instability met with in the letharge state. Consequently, suggestion instability met with in the letharge state. Consequently, suggestion is the main point on which the two schools differ.

That there is a practical distinction between the questions of suggestion and fraud in shown by a whole series of observations. The case of Siemerling teaches as this. His subject was hemisteauthetic both with regard to eight and feeling—6c, the power of eight was limited on the side on which the skin was without feeling. The field of vision was concentrically narrowed, so that anything beyond a certain distance from the point on which the eyes were fised could not be seen. Now, in hyposis the series of feeling on the hemisteauthetic side was restored by suggestion, and as soon as this happened the eye on the corresponding side became normal, without direct suggestion. Westphal and Siemerling thought this an objective proof of hyposisis; and, as a matter of fact, I think that we must agree with them.

We are told that in this case the power of sight was entered by indirect and not direct suggestion, the sense of feeling being first of all residenced normal by suggestion. The whole process was probably one of indirect suggestion such as I have described on p. 67. It is possible that in a case of Kraft-Ebing's, objective symptoms were profuced by suggesting mental paralysis. Such cases have been described by Charcot's pupils. When the subject is told that his arm is paralyzed, vasometer disturbances set in, which we may consider objecthat there could be no question of indirect suggestion in all these cases, but eather of processes which earnot nowadays he included in the idea of suggestion, the objection would be without meaning; for we know that objective symptoms can be produced by suggestion. Let us take a case similar to Siemerling's, one of concentrically narrowed field of vision. If we say to such a subject in hypnosis, "Your right is now normal," and it becomes so, then the restoration of eight which cannot be feigured is evidence of an objective symptom produced by suggestion. It is the same in the case of the vascutoger disturbances already mentioned, and especially where regards changes are produced by suggestion.

From this we see that the difference between the two schools is not the question of simulation, but that of suggestion. Both schools have sought for objective symptoms. The difference is this: they either think they have discovered different objective symptoms, or that they must attribute the symptoms to a different origin. According to the Nancy school everything observed in hypotosis, even the objective bodily symptoms, results from the influence of suggestion. Charcot's school, on the other hand, thinks that the special symptoms it deals with are physical referen, and have nothing to do with suggestion.

With organd in the different symptoms which have to be considered in the modify the question of simulation, Charact and his people has great array on the curves of semantic contraction and experientian in the catalogue mage. There is no entertial difference in the discussion is catalogue person control hold his arm tip langer than an impositor. But when the captod tracings from the catalogue man and the respication are moned, there is an impositor of difference if the impositor coins above that he is invest by imposition in the arm and respiration curves; the hyperox unique, an the contary, Levidies calculy and entity from beginning as each in first their is no perceptible irresulting in his arm, which sinks gradually and unique in the people may that a catalogue, person is nometimes modificant for a very long time, and therefore offers as objective point.

Charge meetions incomed some materials inflability as a particular characteristic of bethings. It is not to be improved that a person one than taking single materials, or groups of materials amplied by single nervous, also tonervations without constant practice; for these constructions small only be important if they appeared instantaneously from the first, became it is audientedly possible by practice to come isolated groups of muscle to confront. Mercover, we must summain that this apparent spon which Scharles places good mine, is not with in hydroxical patients when analog, and is not, therefore, an accombinately objection for Repositors.

Charged does not think that the continences induced by stimulation of

we ship in the maximulation there are nearly value in meeting the question of simulation, and, in fact, they might easily be brought about by reductory action.

Let in now consider these symptoms which must guide us in discussing the question of simulation. In the first place we must notice how the syes close; how this takes place, and how the subject tries to open them is of importance. This closing of the eyes is difficult to describe. The gradual falling of the lids, and the action of the muscles of the forehead when opening the upus, in a way like that after sleep, see important details; and the rolling upwards of the sychalis must also be noted. The fitellary britching of the eyelds is, no the contrary, of no importance, as it often happens without hypotonis. In cases where this eyes are open their expression is most important, as the look is often blank and meaningless. The mask like expression and the attitude of the subject are often characteristic also. The subject moves his limbs slowly and heavily when commanded, but there are cases in which this symptom is wanting, and the movements in particular are quick and lively.

In the case of the "downs-kneer," Maglebias G., which has already been merchaned, the scenar Anche peole very interfed observations, which consinced him that the bypomia was genare became the symptoms could not have been produced voluments. The object's right expressering that an angle of g., and both pupils were contracted in the uncommun; the lide lated to almo for 125 minutes—the duration of the bypomia, during which the green remained upon mit the pupils fixed. Arrive does not think that may one could have up not a degree of contragment of one aye for 125 minutes—the left type legal unequal time.

The expression during conso-deliminar is also very important. Every one knows how difficult it is to place decadl in a particular position so that the expression, the attitude and the actions should correspond to the idea. To represent such a situation as nationally as possible is the greatest art of the actor, but is very soldern alrogather realized on the stage; but it is still more difficult to change the mood in a moment and pass from one situation to another in a few seconds. The hyprotic, kowever, often does so easily. It is automishing that considers should regard this very ability of accomplishing a complete and rapid change a sign of hand, as a competent judge once did at Vienna (of p. 140). This change is, surely, one of the most difficult things to accomplish, and it would be wonderful.

that all the suspecced persons should devote themselves to the thankless pure of friend, when with such talents for acting a very different career would be open to them. The expression of pain, the uniles, the chattering of the toeth and shivering at different auggestions of pain, plensure, cold, etc., would be no easy task to the supposed improver. The waking in many cases is just as characteristic; the astonished (see with which the subject looks round as if to find out where he is. His behavious in post-hypnotic suggestion is likewise important. The impostor generally easywrates like a person feigning undoes. In spite of the variability of all the symptoms of hypnosis, there is a certain conformity to rule in its development. The imposter usually accepts all suggestions very quickly, while the experienced experimenter knows that sasten thirty to suggestion unreases with a certain uniformity. Analysis to sight feelings of pain is a fireoutite form of fraudand although an unexpected pain causes the usual reference the face and eyes, the impostor will declare that he felt no pain. It is the same with sense delusions, where the suggestion generally requires to be emphasized before it takes effect.

The impostor musily exaggerates him also

But, apart from the symptoms of Charcot's stages, cutting absonualities of the mancular system have been utilized in judging of fraud. On the face of it, it would hardly be expected that abnormalities which are supposed to earlinde fraud should be capable of being induced by suggestion. If we consider that an idea suggested to a hypnotic differs in no respect from a soluntary idea of a person who is awake, it should be difficult to conceive that the idea in the first case should produce objective changes which do not appear in the second. And pot that is the case. Even in staking life an idea assiltened by mother person has by no means the same effect as one voluntarily produced. The difference is probably most perceptible in pathological cases. A patient suffering from the fixed iskn that he is imane can generally be pucified if the doctor mances him that he is not insube. In such a case it is not merely the doctor's dictars which postalls, became it happens often enough that the patient is fully aware that his own idea a creocoun, and that the doctor is assuring him of his sanity is colly repeating a statement which he has aboutly made on previous occasions. Nevertheless, the reposition of the assurance again pacifies the patient. The case of blushing which I

mentioned on page 64 is to the point. When A. told B. he had got to blank, the latter frequently did so, although the voluntary dea of blinthing did not cause B. to do so. Tickling, also, in a wall-known example of the difference in the results produced when a simple stimulus is self-applied or applied by somebody else. Let somebody else tickle you, and you hogh; tickle yourself, and you do not. A number of other examples could be cited, and all tend to show that when another person calls up an aler in my mind the result is different from that which would be produced by the salf-same idea voluntarily induced by myself. Experience shows the same to hold good in lapnosis. Superficial observation led to the conclusion that objective changes could not be brought about by suggestion, but a closer study has now shown that conclusion to be asponeous. But, as I have strendy shown, there may be other properties at work in hypnosis sesides suggestion. It is pounds that the physical apoptons which are sometimes associated with suggested paralyses, and which I have dealt with in page 12, belong here.

Ar all events, experience teaches us that suggestion in hypnoms can being about muscular phenomena which cannot be produced voluntarily. For example, the creation of the staggering gair in locomotor stany, which Berger described, and I also have observed, and other like phenomena. other abnormalities of the mineular system may be used as arguments against simulation. If a person holds out his arm for a long time without trembling to any extent, this may be held to exclude fraud to a certain extent. It is also possible to produce such abnormalities at times by special methods. A heavy weight placed in a hypnotic's hand will often be held longer and more steadily than it sould be possible for a waking man to. As Wilcinson and Braid have printed out, directly the hyprotic shows signs of giving way, any tremore can be suppressed for some time by suggesting that he has only bits of cork in his hand. Similarly, I have seen a hypnotized person, whose arm was beginning to get lived and tremitled, hold it can spile and directly it was suggested that his area was resting on a custion or some other support. All these points many be considered when radging of fraud.

Since, Yest, Parissed, and others have made particular investigations on the sense delication of sight. They say that a priors dealing the influencemay object as it would a sent one; and in influencement of colour, the complementary colour is said to be usen oftenwards, and so in a manual set of vision. But Charpenter and Bernheim have very properly coloralized these margaments to mindown. They have alone that the halfacementary of each was analy appropriate doubled. The solvent first new some stall object doubled by the prior, and concluded from the that the organised belliaconstant should be doubled also. Such a conclusion out, of course, be there accessoringly. For this season, it may also happen that the doubling of the semi-definion is mountary. In may man, the part point is that the prior only produces a doubting when a real alignst o seen through it. If this is not the case-it, for example, the expensmounts in its a dark storm, or if he shows the subject a probably black while actron—the dealing does not occur. Asserting to Charpenner and Burnham, the experiments with complementary colonic ways and more tear; and the more is the case with other experiments of Short and York in colours, from which they down the nominator that in supposed prospious of adsed colours the effect was the more as with real optical images-

We must, componently, give up any thought of using time experiments when judging of fated, even when on have to shad with encolarated present who know nothing of the doubling of images by prison, or of complemen-

tary undown, or of mixed colours.

The phenomenon prosested by the pupil of the eye, which Binet and Féré mention, seems more valuable. In suggesting a hallacination - a.g., that of a bird-the suggested approach of the object causes contraction of the pupil, and vice wend. At the same time there is often convergence of the axes of the eyes, as if a real object were present. But it must be rement bered that some persons are able to produce this pheromental by an effort of will, as Hack Take and Budge pointed our long 200. Lefevre quotes the experiments of Secr. de Boon, wise was able to came his pupils to contract by imagining that he was in a place where the light was very bright. Pilts, also, has recently published a work on the utilization of the will per the pupil-reflex; he lays particular stress on the fact that the idea of light produces contraction, of a dark object dilutation of the pepils. It follows that the phenomenon presented by the pupil of the eye must only be used with great castion is judging of fraud,

Beenheim lays goest weight on the analysis of hyperotic subjects. If a completely analysis subject is touched with a fundle brush he shows no trace of pain. There are no impostors who could repeat the expression of pain under these rireumstances, panicularly if the contact were unexpected. But we must consider that such a high degree of analysis is very rare in hyperosis. The anaesthesis of the succous mean-



branes-e.g., of the stembrane of the nose-with regard to ammonia, is to be setted also.

There is no need to say that certain rare phenomena—e.g., secretion of tears and awent, clarges in the heart's action, and organic changes, produced by suggestion are of the greatest value.

Finally, I wish to call attention to the absence of those movements which I should prefer to call the movements cannot by todium (Languelligheit). As is known, a waking man is unable to retain any posture for a long time, even when all his number are related. In the latter case the movements cannot be caused by latigue of particular muscles; it is rather that when one position is long traintained, a lively feeling of disconfert in produced, that is subjectively felt as retirm. This, it seems to me, leads to certain irresistible movements, the movements of tedium. Their absence is a strong evidence of hypnosis, and I think this as important, but almost entirely unknown, symptom. They are best observed when the subject has been left for some time to himself, without any notice being taken of him.

I have an yet only spoken of such symptoms as take the form of bodily furctions; but according to Pierre Janet these bodily symptoms are of such less importance to the question of simulation than the mental ones; the memory in particular Gurney also held this view. The assumption from which these authors started is that there is less of memory on waking from hypotesis, and that comequently the subject remembers nothing that has happened during the state. Now, this loss of memory

it to be med to decide the spention of fraud.

I tell X., when I have hyprotical, that when he is going to bed he is to dip a towel in warm water and wrap it twice round his threat. When he wakes he seems to remember nothing about what I had und to him while he was hyprotized; open which I repeat the command, but omit the doubling of the nawel. When I ask him what he is to do so going to bed, he naswers, "I am to dip a towel in warm water and wrap it twice round my throat." It will be been that I gave the coder differently during and after hypnosis; yet X superate the contented as it was given in hypnosis.

According to the views of Pierre Janet and Gamey, this would very likely be a case of faud; for X., who had apparently completely forgotten everything after waking, mentions the one point which was omitted in the second command, and of

which he could have no knowledge unless he remembered what tool happened during the hypotosis. But must we really consider this a case of hand? I believe not, and I append to a long series of experiments with perfectly huntworthy subjects, in whom I often observed objective bodily symptoms. A second question to be considered is How is the proceeding brought about? Hom, of course, we must first of all think of the association of ideas mentioned on page 123, by which is this, as is other cases, a hypototic event may be expedited after waiting. It may happen that the subject adds the word "twice" to a certain extent automatically, and without remarking it, in other cases he may make it consciously, as a previously forgotten idea may be suddenly called into consciousness.

The following case is somewhat similar. I hypnotise X, take held of his scarf and disarrange it. In spite of this he are quite still, and the hypnosis is undisturbed. But disarrally he wakes he puts his hand to his scarf to similarm it, although he is not supposed to remember what had happened. I would not have taken even this as a proof of braid without further evidence, for the action in question could be just as well performed automatically, because of the subconscious idea that the scarf was away.

Such cases naturally make one think of frand, and the shaper the distinction between the subject's chains of memory, the more are we justified in accepting the hypnosis as genuine. On the other hand, we must not straightway discurs a proof of fraud in acts which may possibly have been performed automatically.

From two points of view, the sometic and payetic signs of hypnosis which have so far been mentioned have only a relative value in deciding the question of fraud. In the first place, we are never justified in concluding fraud from the absence of one or all of these signs. For example, in some cataloptic postures there are considerable tremore, in many cases there is no analysms, etc. In the second place, we must always consider whether any symptom might not be produced solustantly without hypnosis. Here we must remember that the symptom can, purhaps, be acquired by practice, and also that there may possibly be a special capacity for the voluntary production of this sign.

The important point, whether an apparently objective symptom does not occur without hyperonis, is often overlooked; for it is not set decided whether by practice some persons might not produce all the above mentioned phenomena without hypnosis. There is perhaps, no symptom of hypnosis which has not already been observed without hypnosis. I have already recellated that neuro-muscular hypermitability is said to be found in hyderical patients who have not been hypothised; and the most strained catalogtic attitudes can be produced by gymnasts by means of practice. When Hamen, the well-known hypnotizer, was appearing in Vienna, no small stir was created by a certain Klein who declared he could soluntarily imitate rigidity of the whole body. I may further mention that cases have been reported of persons who could influence the action of their heart without a charge of breathing; though, according to Beautin, a distinction can be found here the hypnotic obeys suggestion at once, while out of hypnosis a short time must always clame before the will can exercise its influence. Local flashings are another symptom apparently impossible to simulate, yet Mantegazza easy that at one time in his life he was able to induce local reddening of the skin simply by thinking intently of the spot! he even adds that wheals cometimes appeared. It has often been ascerted that people can peripite at any place they please. Deliberal says that he can industry the accretion of salms by his will be idean. It is well known that this last is under the influence of ideas which inme persons can eall up when they please.

I have purposely made these remarks, because a superficial observer will after take a symptom to be objective which a more excellat investigator would not. Of course, we must always take these symptoms into consideration, because they have a relative value, but no more attention should be paid

them than sciencific criticism permits.

On account of their peaktical importance, I shall speak of other symptoms which, according to experience, are often enough considered by outsiders as people of fraud. The outsider believes that hypnosis must invariably powers an ideal and complete picture, and he consequently assumes there is fraud when some symptom appears which does not fit into that picture.

Let us take the laughter of hypnotic unlikets. In the light

stages the subject is quite aware that he is playing a somewhat abserd part—e.g., he makes all the movements of enting an apple when told to, although he really has mothing to eat. He feels compelled to make the movements, but knows quite well that the situation is ridiculous; therefore it is not odd that he should hugh. But there is often a trace of contributions even in deep hypercous; the subject separates himself, so to speak, into two parts, one of which acts the suggested part and the other observes it and laughs. We have observed something shellar in dienus, correctness we distant and yet feel we

grie diseasaing.

I have already apolosa of the trembling of cataleptics. The subject sometimes makes quite unexpected movements which incomept the suggestion. I stretch out a subject's arm and raggest that he cannot move it. It remains as I placed it. But now a fly suctles on the subject's forehead, and he moves his arm at once to smatch the place. This and similar movements are of common occurrence in hypnosis, and have nothing to do with fraud. Scratching when one is tackled is sometimes a kind of impulsive act. We often see a person who is awake attempt to resist the desire to scratch some spot, but finally successib to the impulse, and we can understand that a hypnotic subject may be similarly influenced. It is true that the experimenter's assurance that the subject cannot more his arm suffices to inhibit voluntary flexion of the limb; but when a stronger impulse, fike itching, acts upon the subject in a manner that stimulates movement, it becomes evident that the suggested imbility to more can thereby be very early removed. We may consider the whole effect prodeced, the regularit of two forces-not absolute magnitudesof which now one, now the other, preponderates. In many cases the seratching is not as irrepressible impulsive movement, but a pure reflex action, as rapid and unconscious as in waking life. Here, also, it is easy to understand that if at the moment the inching begins the subject is not thinking of the order gives him, the new and andden impulse to move causes movement. I have seen people put their hands to their faces when they proceed, as we habitually do, though their hands and just previously beam made memories by suggestion. flexides, many movements which have been prevented by suggestion become possible when the subject does not think of the aspection. If a subject is forbifiden to say " at" he

can often use it in convention, and procurees words containing it subset familation; he only cannot my it when he thinks about it (Laverdage, Hack Tuke, Max Dessoir).

I will further point out that the eyes sometimes open very quickly. I have frequently seen this, and can safely assert that it happens in geneine hypnoses. An impostor will also often open his eyes when he thinks he is not observed; the hypnosic subject does it sometimes, whether he thinks he is observed or not.

A series of similar phenomena must be included here. I say to a hyperotized subject, X., "You are a sope-dancer, and are on the rope." He believes it, and I pretend to out the rope, on which he falls down; but he falls so as not to hard himself. This, of course, is the natural result of a perfectly normal, mechanical, nearly mechanisms process which is always going on in us. We always use our hands to shield ourselves when we fall. This habitual mechanisms works on in hyperonis regardless of any suggestion. Hysterical paralytics—and drankards, too, at times—for this reason selders but themselves when they fall. Hark Toke told a subject he was slend; the num invariably fell, but without husting himself.

Ford once had two dermice under observation during their winter sleep. He suck one of them and god it at the top of a fintree, and as soon as the sole of the steeping animal's pre-stucked a thin branch of the tree a seller action was not up, and the circu grappled the besteln just so they would have done instinguisely, in waking life. Freel then let the chromose have by one fact, and the animal gradually lett that askeep again. The muscles of the feet by which it was harping slowly related; in pass extended slowly smill it was only integray on by the extremity searest the etterliment of the class. First thought that the to figh through its nerview system, and another pass usined the neutron unfullying branch, as that the animal only took one step downwish. The whole seems then examined over again. Chap more the animal fell arries; and its paw lost its grip, and once more another pew stretched out and grouped a lower bring lough. The dissession than gradually decreased the use until it reached the foot, where its eage was, at which it issuined policies. Fored represent the experiment asserted them with both traineds, and the trust was always the name. Neither of the minute ever felt.

I have sited Forests observations in detail became they show that refers action and retreatment persist during bile-patient. From this is in perfectly realized how using it winds to to assume freed became a hypothecom-

flarga automatic marenests,

I must again direct attention to those sense delusions in which, as I have already demonstrated, a slim consciousness

of the true struction pension. In this way situations are created which atomic the maspirion of fraud—as, for example, in the case mentioned on page 145, where a subject fought with a suggested enemy, one of the speciators, but took pains not to bit him.

Further, a complicated suggestion may be minumentood or only partially retained, in which case it will be carried out imperfectly. As racmory is the first condition for the success of a suggestion, it follows that the more highly cultivated a person's memory is, the more likely will be be (cetter's parillar) to carry out a suggestion. If a post-hyparoic suggestion is imperfectly remembered it will be imperfectly rarried out, for hypnosis does not produce superratural nembs. Obvious ac this most appear, I have yet heard the existence of hypnosis doubted because such mistakes have been made. To a man whom I have hypromised in the presence of A., B., C., and D., I make the post-hypnotic auggestion that when A. speaks he in to my "Ha!" when B speaks, "He!" when C speaks, "Hi!" and when D. speaks, "Ho!" As the command it only given once the task is not an easy one, and it is not surprising that the subject is confused and makes the mong exclamation to each person. To the class of insperiorly realized suggestions it case of Joine's also belongs. He suggested to a person that the name Marie was written on a piece of paper. When the paper was turned upside down to seemed to see the letters backwards—straM. One would, however, have expected not only the word to appear backward, but the letters upside down also. Obviously, neither hallingingtion nor illusion was sufficiently developed in the subject to permit of this. And we must remember that these things depend on strength of memory, and on the strength with which sense-delepsons make themselves manifest.

There are, moreover, certain transitional forms of hypere's which suggest listed, but unjustifiably. A subject will go through every reoveneers I command him to make. I tell him to eat an imaginary beefsteals, and he goes through all the motions of exting a steak just as if one were before him. I tell him to drive the dog away, and he kicks as though to do to; but when I atk him where the dog has gone, he replies that there was not any dog there. So, too, when I ask him how the steak materi, he says he has not had one. To the comittee these things suggest fread, but in reality we are deal-

ing with a case of hypnosis of the first group (of. a. sg). The pulsect had to move as told, but there was no sense-defunion. We may form a correct judgment of these states in two ways: (1) by following the experiment: (a) by examining the subject's memory after hypnosis. From what subjects have told me, I think that conne-delesion must be earlieded. The careful observation of subjects points to this. The movements were not of that rapid and immediate nature associated with hallocitation: they were much more the outcome of compulsion. Even the facial expension of a subject is no criterion of simulations. When a subject tays, "There is not any week there," or shakes his head, it is enough in prose that any movement is the result of suggestion. But these very contradictions seem to confirm the authides's suspicion of firent.

In other cases the subject is so passive that he makes no opposition to any suggestion made by the experimenter. Should the latter suggest a hallacination, such as the presence of a tigot, the subject, when questioned, declares that one is there, but he does not run away, show fear, or behave as though the animal was scally present. In this case there is acither hallacination nor any set corresponding theoret, only an affirmative answer, and the subject subsequently repositions this fact. Still, natisfees often confuse possive

hypnosis with simulation.

In other cases the patient is only too ready to do all he is teld and this satily leads to simulation being assected. It a sometimes difficult to distinguish whether the subject is acting from complacency, or whether he is deprived of willpower. At the most, we can only ask a subject to exert his whole will against that of the experimenter, and thereby prove the fatility of his, the subject's, exercions and his less of willpower. There are, of course, cases in which the subject's anxiety to conform to the wither of the experimenter spoil the experiment; but, as Hirschild nightly points out, that does not justify the assumption of hand. In this connection Hirschlaff mernions the experiments which large been made to produce bliders by suggestion. But, as Hirschlaff points out, although accessory tubbing was suspected in the case of our subject, that is not sufficient to justify the assumption of fraud. We ment always semember that the subject may think he is in duty hound to do anything to bring about the derived result.

Hieschlaff's distinction is certainly quite right from a psychological point of view, although it may not be of great importance in deciding in any particular case whether the organic levium

was of mechanical or mental origin.

In discussing absorbed hypernors, Hirschieff also very properly points out that an outsider may easily take the phenomena presented to be the result of found and acting. For example, a subject when hyperoxical for the first time will accept every suggestion made, but in unbrequent hyperoxica he will refuse to carry out any experiment against the performance of which he has prepared himself by pre-hyperoxic auto-suggestion. When told his right arm it powerless, he replan, "No, my arm is not going to be stiff; and I am not taking part in any experiments." When the subject is given a piece of paper and assured that it is a chocolate tablet, he replies. "That is a piece of paper I knew quite well beforehand that you would repeat this experiment, but I have made up my mind not to be taken in again." Niteurally, no one test an outsider would conclude that such remarks point to-decolation.

Finally, I must mention that a subject will semeinter confeis to impession, or to having acted to please others. Such a confession must be judged with caution. Many who have made hypnotic experiments have observed that subjects will often my abor the hypnosis that they have been pretending, though their actions were really compulsory. Much has been written on the significance of confession in criminal cases, and Ernst Lichsing has recently published a small monograph on the ambject. He has come to the very proper coordaison that a prisoner should never be found guilty of a crime sterely because he has confessed to it. If the criminal law is satisfied that cordenion to a crime never justifies the assumption shat erime has been committed, it would be in the highest degree. erroseous to consider a subject's mornion that he has simulitted hypnosis as a proof of fraud on his part. Londing points out that is judging the value of a confession in criminal cases. we must examine the motive, taking care at the same time to distinguish between the motive and that which underlies it. The same procedure must be followed in hypnosis. For example, a patient receives hypnotic treatment from a doctor, but without success; he is annoyed because the doctor demands payment for his treuble, and declares that he only persended to

to hypnotined. Another person is vessel because he has been a mere plaything in the lands of a professional hypnoticer before a number of speciators. He had gone on to the stage to unmask the hypnotizer, but had proved himself one of the best subjects. He is so analyed and so analysis not to admit right has actions on the stage were compalitor, that he america he was pertending all the time. In other cases a confusion may be entorted by compelsion or four. We can easily imagine such a case as the following:-A. is in a position of matherity over X, but fain in every attenue to hypochiae him, whereas B. succeeds at once. This armoys A, and the next time he meets X, he brings his authority into play, partly intestionally and jurily unintentionally, and thereby leads X, to contest to fraud. Here, of course, the dread that a dustal of impostuse might bring about uspleasant consequences may also play a part. Take another case: The head physician of a biopital lain to hyperotice a patient, but another ductor succeeds in doing so. The nest time the patient visits the tospital he a so afraid-possibly quite unjustically-of all sorts of little ampleasantnessis if he does not gratify the head physician's emicy, that he denies that the other factor had ever hypnoticed him.

In cases like those cited above, the subjects tell untruths anconsciously; but it is much more interesting from a psychological point of view when untruthfulness is the result of selfdeception. Here the self-deception is the same as we have found in some cases of post-hypottic deception. The subjects think they could have acted otherwise if they had so pleased (V. Myers). Heidenhain mentions such a case; a doctor said, after the hypnosis, that he could have opened his eyes if he had wanted up; but when the hypnotic was renewed he could no more help himself than on the first occasion. I have made a number of similar observations myself. One case was that of a doctor who at first almost invariably stated after hypnosis that he rould have believed otherwise, only he did not such to open his nyes, etc.; but in each fresh hypconis his will was inhibited. Finally, he himself became aware of his loss of will. power. In another case, I hyperetized X, at least ten times before he would admir that the suggested paralysis of his arm had really made him unable to move it; he previously believed that he had so behaved to please me. I may here mention that many a man who has down something stupid when drunk for the first time, is oben convinced on the following day that he could have controlled himself if he had winked to. The self-deceptive process here is obviously just like that in the other cases received.

All this makes it evident how difficult it is to decide the question with regard to finish. It seems to see to occur relatively more often with children, but the transition from simulation to true hypnosia is so gradeal that even an experienced experimenter is sometimes uncertain. For example, when a subject shats his eyes to be obliging, it is not the same thing as if he shut them to deceive; or he shurs them because he is steed of fising them on something, but could open them by a strong effort, though he keeps them shut because it is more combinable. It would be a great satisface to identify this with simulation. Others do what the experimenter wishes, to please him, but not to deceive him. This, as I have already mentioned, is not pure froud either; we can only speak of that

when there is the deliberate intestion to decrive.

There is get mother complication; people in hypnous sometimes preced exactly as insure persons do. Thus, a hypnotic will say he sees something when he does not. It is, extensity, difficult to say where decer; begins and ends in each a case; but, generally speaking, practice will enable us to judge the mental state of the subject with some certainty, or at least great probability. It occasionally happens that the most experienced deceive themselves or are deceived; the most experienced aliemst or neurologist is in the same case. But that is no reason why we should deny the reality of hypnosis, Obersteiner justly observes: "A group of morbed symptoms, such as an opileptic fit, may be so exactly reproduced by clover simulation that even the most skilfed expert (Esquirol, for example) may be deceived. And yet, informinately, we must still enconditionally recognize the existence of epileptic fits." The fear of being deceived has prevented many from interesting themselves in the subject; yet no other principles need he followed than those which guide us in the study of other mental states-psychopathic states, for example. Each case must be treated with accentific reserve, as mental cases are torated. We must not make impossible demands in order to exclude imposition) to do so would be to overstep the bounds of scientific acepticism, and would, in truth, only display an

tesocicatific mind. I have heard a "cultivated" man, who thought himself acceptically sceptical, say, when watching a hyperotic subject, that he would only believe in the reality of the hyperosu if the subject could see through a non-transparent substance —, a, of he could see through a man as if he were a piece of gians?

## CHAPTER VIL

## THE THEORY OF SYPNOTISM.

We live learned in the preceding chapters that the obestmena of hypnosis are extremely complex, and the question now is, " Can these phenomena be explained?" We must not densing too much in this connection. To explain a hitlerto unknown thing, we must trace it back to what we do know, If we affere to that, and also bear in mind that we know nothing of the real nature of our mental processes, it is evident that any explanation of hypotonis must be a limited one. knowledge of mental processes is confined to certain concomitant phenomena and their symptoms, and these are obtain but inadequately apprehended, while the seal nature of such processes is defiated us. Under these encumtances we must he satisfied by such an explanation as may be got by dominstrating that hypnosis presents phenomena parallel to shou renon-hypnotic life. We must settle what are the Ime, and what the apparent, differences between the two states, and then we must find a causal connection between the peculiar phenomena of hepnosis and the hypnosigenic method emplayed. An example will make this closer. I will suppose that we want to find an explanation of a Impostic negative irallucination of sight. We must first of all find an analogous phenomenon in a non-hypnotic state. If we find a cast in which, without hypnosis, an object is not perceived, chough the eye must have seen it, we must then ask what is the difference between this phentmenon and the same plensmeron in hypnosis. We shall then lind that in hypnosis objects are not percoived only when the experimenter forbids the perception; but that to forbid the perception of an object in waking life would be so ensure its being perceived. This point of difference must be kept in view for a proper explanation. It will be explained by the existence in the one may of a peculiar state of constitutions-down-constitutions; and we must then ask how hypnosigenesis explains the formation of this dreum-conscionancia. It is a conspicuous flaw in many theories of hypnotism that they attempt to explain more than can be explained in the present state of our knowledge, and more than we are justified to demonding of them. An explanation of hypnosis is not called upon to explain the real nature of the process by which an alex is aroused; that is a problem for psychology in general to solve. Similarly, we have no right to demand that an explanation of hypnosis should explain the seal nature of dream consciousness as well. Certain facts must always be taken for granted. Only superficial comiderations could lead any one seeking to explain hypnosis to expect an explanation of the facts just mentioned. In studying psychological questions I always start from certain postulates, and never have anything to do with theorem hased on the theory of cognition. Similarly, any one who desires to explain hypnonia must accept certain postulates which he may, with a tranquil mind, leave to be explained later on by some

other branch of psychology.

I think we can now explain many of the hypnetic phenomena, if "explanation" is taken in the above sense. About filtern years ago I attempted to coplain post hypnotic suggestion in this way. In any case, such numerous analogies to the phenomena of hypnosis have already been found that it has been rescued from the demain of mysticism and occultism once and for all. We need no longer think the methods of hypnothim incomprebeneible, 22 was the case formerly. This has, to an extent, been brought about by more careful methods of elucryation, by means of which it has been demonstrated that waking life, sleep, and other states persent so many phenomena analogous to those of hypnosis, that the latter can hardly be said to present a symptom exclusively its own. Much progress has also been made by following the method recommended by Observement; i.e., by undring the transitional states between normal life and hypnonis. In this way we have found many more connecting links with neural life than was originally expected. Self-observation when practised by such intelligent investigators as Wilkinson, Eleulet, Forel, Obersteiner, North, August Heidenhain, Wondt, Dollken, Marcisowski, Straaten, Fran Bosse, Vogt, and Fran Vogt, has done much to further our competention of logantic phenomena.

For Further, it is crue, has asserted that hilberto hyperetic experiments have only proved moreural when the subjects have been paperally young man in pump somers, and not observable under adults. This shows have theroughly Forchs in neparlated with the increases of the misject. It is indicated to the interest of the misject of the misject will be introduced to the interest of the misject and the party than an important observer will not have much difficulty in deciding who is the judg when he has to choose between Mr. Fachs of Bonn and the guillement have nimed.

We must never forget when endeavouring to explain hypnosis, that a uniform explanation is impossible, became the term hypnosis includes states that differ very much from one another. If we comider the remarks on the classification of hypeoses made on page 50, it at once becomes evident that May Dessoir's two groups represent two totally different states, and Hirschlaff excludes the first group altogether from the category of hypnoses. At all events, when a subject retains consciousness and self-consciousness, there is an orsemal difference between his being unable to perform certain movements and his believing that he has been transported to another simution differing both as to time and place from the one in which he really is. But we could easily produce other types, apart from the two states just mentioned. For this reason I think it is better to discuss the chief symptoms of hypnotical phenomena simply, than to attempt to discover a uniform explanation for them all. I shall follow this plan and devote my attention to (r) the phenomena of suggestion as regards voluntary movement; (a) positive and negative definitions of the senses; (3) represe; (4) the phenomena of memory; (5) post-hypnotic suggestion.

We shall understand the different symptoms of hypronismuch more easily if we recognize certain facts in the mental life of furnin beings. They are of immense importance to psychology, physiology, medicine and saringrudence, as well as to hyprotism. The facts to which I refer are—(1) Mentaive a certain processors to allow themselves to be influenced by others, and at the same time to believe much without making conscious logical deductions; (2) a psychological or physiological process tends to appear in a man if he believes it will; (3) a man's surrepublity to influence based on the two preceding facts is often specially marked in respect to some particular person. (4) espablity of being influenced in this way is generally increased if a person has learned by previous experience that he has a tendency in this direction;

(5) besides the ordinary state of waking consciousness there is another, which we may term dream-containusness; it is brought about by certain definite physiological and pathological conditions, is capable of directoping those characteristics of the human mind which we are now discussing very considerably, and it specially noticeable for its influence on serior perception.

Let us begin by considering the first point. There are people who believe that they can escape external mercal influences; but they are wrong. Life is full of such influences, and they will work as long as there is mintal activity among turn. The desire for society, the recessity of exchanging opinious, show our pronessess to influence others or be influenced by them. In this way we often attempt to

convert a scientific or political opponent.

In such a case, of course, we generally endeavour to attain our object by producing logical proofs. But, that men have a tendency to believe things without complete logical proof cannot be doubted for one moment. We will call this quality credulty. There is no man who believes only what has been logically proved to him. A conscious logical conclusion is hardly eyer the immediate result of a some perception, yet we form our judgment of external objects as if that were wally the case. Most people confuse the subjective idea of an object with the object itself (Spencer); whereas the latter, the "thing in itself," as Kant calls it, is quite anknown to in. But agant from the definions of judgment which we make with segard to our sense-impressions, we find that human credulity ranges over a very wide field. It is emotional emphasis, in particular, that causes the processes which exert an inflaence on credulity. We easily believe anything we want to hear, and it is a matter of common experience that a patient is much more mady to believe the quack who tells ben be will get well than the doctor who declares his mainly incurable. This is to a great extent the result of the influence of the quick, who, knowing full well the weakness of his patients in this respect, promises them recovery from even absolutely incurable diseases, a promise which no honourable medical man could possibly make. Also, the constant repetition of an assertion facilitates belief in its accuracy. The sucrem of those clever advertuements from which no one escapes, least of all the very people who consider themselves secure against such allowements, makes this particularly clear; and the history of hypnotiem shows plainly what a power the constant especiation of an america has. Twenty years ago most people believed that there was really no such thing as hypnotism and that any belief in it was attributable to self-deception on the part of the experimentar or fraud on that of the subject. Since that time a complete reaction has set in and opinion has changed, influenced to no slight extent hy the constant accessions to the ranks of those investigators by whom the reality of hypnotism was originally maintained. Doctors and others have changed their opinions about hepnotism, not because it has been definitely demonstrated to them, but because they have been influenced by constantly hearing and reading the same assertions about it. To this we may add that faith in authority has also played a definite, though not exclusive, part. For even after Charcot, Heidenhate, and a number of other authorities had admitted the reality of hypnosis, many people still believed the whole thing to be a swindle and that those investigators had been deceived. Certainly, the personality of any one who wakes to influence another's belief plays a special part. I shall return to this point fater on.

I will now proceed to discuss the second of the facts of human mental life given above-i.e., the physiological and psychological action of helief. Carpenner, Hack Take, and other English investigators long ago astribed great importance to strained expectation—"expectant attention," they termed it. The second of these factors must be strictly separated from the first. It is quite possible to believe something without the action corresponding to that belief taking place. A more may believe that he has taken an anodyne powder without the pain for which it was taken subsiding. For belief to be effective a particular memal predisposition is certainly requirits. We cannot analyze this predisposition in all cases. it may be present on one occasion, absent on another. We find exactly the same thing spart from hypnosis-e.g., in pathology. I have already mentioned that people who suffer from dread of blushing are particularly liable to blush when they most dread they will do so. Other pathological cases present similar phenomena. At present we are only able to establish the fact that in ordinary life—i.e., particle hypnomic, there is occasionally a predisposition to be influenced psychologically and physiologically by belief in comething.

A few examples will illustrate this effect of belief. It often occurs this people yound if they think they have taken an smotic, although they have not taken anything of the kind. A person who goes to ted believing he has taken a sleeping ponder often falls atleep, even if the powder only contains some inert substance. These phenomena are particularly noticeable in pathological cases. Hysterical paralysis is often cuted at the exact moment the patient expects. Many apparently soysterious effects may be explained in this way. Hysterical patients can occasionally foresell an improvement in their paralysis. 'That recovery should follow need not surprise us if we remember the foregoing remarks, for the connection is totally different from what believen in the gift of prophecy think. The hysterical patient is cared at a particular moment bucasas he expects to be, and the prophecy is thereby apparently fulfilled. Pathological phenomena also frequently occur when expected by the patient-for example, impatration provide of mental origin, stammering and other disorders of speech. Let me here call attention to a mistake that is frequently made people confuse the expectation of a state with the wish for it. No parsent wishes so be importent, but he becomes no because he expects the catemity; it is the same with stammering.

We can readily understand that the fulfilment of an expectation may be hindered, especially by impediments of organic nature. However much a suffices from severe myelitis may expect his paralyzed legs to move they will not do so, because the anatomical changes in his spiral cord present an impediment which cannot be overcome by expectation. There are other impediments which binder expectation from taking effect. But this does not disprove the fact that, belief has a tendency to produce an effect. The efficacy of a tendency may be impaired, but the tendency as such will remain unaffected.

The influence of helicf—the phenomenon we have just been discussing—in not confined to its effect on the voluntary mescular system. Its range is much wider than could be gathered from the coamples already given. Measurantion, for instance, is affected by it. Foral marriors that these are certain popular methods of retarding the estaments. In one town many of the young women the something cound their little farger if they wish to delay menorutation for a few days in order to go to a ball, etc. The method is generally effectively.

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It has also been observed that belief influences the organi of seme under particular circumtances. The following case of Carpenter's is related by Bentiregal . A Indicial delisterment was to be made; the grave was opened and the cotto mused; the official present and that he already small purrefaction; but when the coffin was opened it was found to be empty. Here expectation caused a distinct seme-perception. Archibald tells of a tearber who described various perfusies to the children in his class, and then told them that he would sprinkle something about the room. Although he only mod pure water, os per cent of the children declared that they could smell steat. Somewhat older children were not quite so susceptible to suggestion, though not altogether wanting in autoeptivity, Yang has made a series of experiments and has proved that the owner of touch and the means of temperature, particularly the latter, are subject to detector, and that certain perceptions occur when they are expected without external stimuli. I myself have often repeated the following experiments of Braid, Weinhold and others - I blindfolded certain persons, doctors among the number, and then told them that they were going to be meanwright. Even when I did not meanwise them they generally imagined they left the current of all caused by the passes, and believed they could tell the exact moment when the passes were begun. Here we see expectation produce a perception. Many people begin to feel the pain of an operation almost before the knife has tooched them, simply because their whole attention is fixed upon the pain and the beginning of the operation.

It is upon the simultaneous development of the two chan acteriation of the human mind which we have just described—
wit, the tendency to believe without topical proof, and the
influence of belief on the human arganism—that suggestion
depends. The phenomena they present occur often enough
in non-hypotic states; and even if we are obliged to admit
that any introdinate internification of their activity is only
observed in hypotonis, we should have to desert the safe ground
of stating if we suched to limit that activity to hypotonis alone.

I have already discussed the various definitions of suggestion
(p. 6q if up., and I must refer the reader to the explanations
which I then gave for a proof that influences which a superficial observer considers only effectual in hypotons may be
opinity so in every-day life. Hofter thinks that we should only

speak of engention when a judgment is formed or a wish executed in a way that is not quite normal, the power of judgment and the energy of the will being for the time partially in abeyance. For example, he ascribes the effect of a doctor's assuring a patient, in a tone conveying complete personal conviction and truthfalorss, "You will be well," to suggestive influence, because the patient cheerfully believes the statement without any proof of its accuracy. This view is quite justified. Only, we should remember that it is quite a common occurrence. for a judgment to be formed or a wish fulfilled "in a way that is not quite normal"-a fact which psychologists are agt to everlook. We can also see that all that Bechterey, Lipps, William Hirsch and others have written on the "concept" suggestion still leaves suggestion a wide field of operation outside the domain of bypones. An examination of those theories which put the associative processes in the foreground, or of Dubols' and Vogt's definitions mentioned on page 66, shows at once that suggestion is not limited to hypnosis. No matter what definition we select, it will always be found that non hyperctic states present processes analogous to those of hypnosis. Sidis thinks that there must always be more or less resistance to suggestion; but this is wrong, whether the succestion he hypnotic or post hypnotic. As Hirschlaff very properly insists, those phenomena of waking life which arise from stupidity, superstition, feeble-mindedness, and finaticism hear a great similarity to the phenomena of hypnoria. In all such coun there is suggestion, and the suggestion is accepted and carried out without beproois because of the subject's mental predisposition, and there is certainly no resistance. Lippo says stress on the inclusion of the extraordinary in the concept suggestion, but that should not lead us to exaggerate. Many things appear extraordinary which are not so in reality. And we speed admit that engacetive processes are of daily occurrence in codinary life, unless we would dissociate phenomena which really belong together. Heliputh gives the following example: -If a man is sold when he sits down to dinner that the food placed before him is unsavoury or dirry, and he experiences a momentary feeling of aversion, that is an ordinary phenomenon, and not a case of suppostion; if, however, this aversion is not dispelled by the food being of good quality, but increases to loss of appetite and names, then suppostion is at work.

I now come to the shird fact in the montal life of man win ,

the susceptibility which an individual may exince to the influence of some particular person. The latter need not be an all-cound authority, but may yet influence people who are in no way mentally deficient. It is well known, for example, that great and learned men are often under the influence of a person who is their intellectual inferior. We know well enough that even lumnics and work-minded persons are sometimes able to influence not only certain individuals, but even large numbers of people. Many a political or religious movement owns its meens to the inflavnce of mentally-deranged persons. And when we consider our behaviour with negard to dogmatic assertion, human credality is made particularly clear. As children are porticularly tredulous of doguntic assertions, and an such credility is strongly marked in hypnosis, this state has often been compared to childhood (Copin, Miescher, Cullette, Wernecke). I was told at school that the North Cape was the most northerly point of Europe. This was not logically proved to me, yet I believed it became it was in the book, and more especially because the teacher said so. Dogmatic assertion influences not only children, but adults, for the latter believe in the existence of land near the pole, not that they have ever sees it, but solely because they have been sold that it is there. Certainly we are mable to explain upon what the inflaence which some people exert depends, especially when there is no question of authority. Still, we must take this influence to be an actuality, confirmed by many instances in daily life. We cannot explain sexual love. The man who falls in love with a woman allows her to domineer over him. Sexual influence may reen go so far as to beduce a state of "senual subservicines," as Krafft-Elizing terriely terms it. This is characterised by nocconfitional surrender of the will. But we find this influence of one individual over another quite apart from sexual love. This is well exemplified in school life; one master has greater influence over his pupils than another, became the influence esented has esually no logical basis. Anyway, it would be altogether wrong to deny the existence of personal inflatnet. And I do not consider that Lorwerfeld is right in his view that in hypnotic suggestion the personal influence of the experimenter is put in the background by other methods of influence-entreaty, advice, command.

The excumitance that we are enable to analyze the came of personal influence in numerous cases has led to all kinds of

organizate theories being propounded, especially that of animal magnetism, by which it is attempted to prove that the influence in question is due to some kind of physical action, although in reality it depends on processes that are entirely mental. The fact that we are not always able to understand these processes often leaves a mysterious impression, and Escale, consequently, agrees with Resembach that there is a mystic factor is suggestive influence. We must not, however, call a phenomenon mystical because we do not understand all its details; otherwise we should have to term sexual love, the influence of teacher on pupil, and many other similar human relations mystical also.

Many experiences of daily life also confirm the fourth of the facts under consideration—viz, that if one person commences to exert an inflaence over another, that inflaence is increased by subsequent repetition. It frequently happens that when two people fall our needles will give way, no momer how trivial the subject in dispute may be. Each disputant four that if the other gain no matter how small z success, he will demand users. In the winner the consciousness of victory, which is no essential part of the success gained, is increased, while the lower feels a lessened power of resistance. It is evident that the increase of inflaence on the cost hand, and of susceptibility on the other, has a logical basis. This may be observed in the case of patient and doctor; the latter's inflaence is sometimes increased on account of the success of his treatment.

The fifth fact of human mental life concerns a consciousness completely distinct from the waking consciousness. Following Eduard v. Humann, we will call this the state of dream consciousness. In it feelings and perceptions do not occur in the name way as in the waking consciousness; but I will not enter into details on this point, as it has been thomoghly discussed in the chapter on "Cognate States" (p. 178 st 101). The chief point is that we are also to distinguish dream-consciousness from waking consciousness simply by recollection. When we make from sleep in which we have been dreaming, we know that what we dreamed was only a dream, and was not real (Bentivegni)

We may take these five facts in connection with the mental states of human beings for granted. As I have pointed out in the preceding remarks, there are many respects in which they may be sendened more comprehensible, but we do not possess any thoroughly satisfactory explanation of these five facts, and such in not necessary as far as theories of hypnasis are concemed. Still, the study of them senders the phenomena of hypotosis much more comprehensible. It may be urged-in many respects justifiably-that the limits I have placed on the possibility of explanation prevent use from gising an "explanation." But we must admit that many a so-called explanation may in the same way be considered only a discussionation; though many nuthors put their approved explanations before the world with such assumance that if we would only believe them there remains hardle anything assemblaned almer in the whole of mental life or in hypnons. I hold the opinion that the possibility of sapinnstion goes to further than I have here intimated; when other authors express the belief that they have explained more by means of their psychological theories, ideas of attention, contraction of consciousness, etc., I must enter a protest. I shall be silent here on the physiological theories, as I shall come to them later on; they may be looked upon an most umatisfactory. hypotheses. At all events, if we are to understand the phononena of hypnosis, it is susmain first of all to combinh the fundamental facts of mental life, and to remember at the same time that now one, now another, of these facts, now several of them together, will have to be considered.

After these preliminary remarks I go on to discuss the separate phenomera of hypnosis; the functional disturbances of voluntary movement line, because there is no hypnotic state sittless them. They are almost always the first symptom, even when there are other changes. The effect of expectant attention explains their omet. But to understand this more readily the hypnosis should be induced by slow degrees, as in

this case the motor disturbances are plainer.

To produce any motor distintunce by suggestion in a subject, X., who is in a perfectly normal state, we must first of all make him believe in the possibility of such an effect. Consequently we shall the success attain our end if X. has seen a number of similar experiments performed on other persons. The possibility of influencing people in this way is, for example, much greater just after they have witnessed hypnotic performances. But belief in the possibility afone of the effect taking place does not as a sule suffice. It is more generally necessary to fix the subject's attention as far as possible on the coming

on of the motor disturbance; or, as Fochner and Wundt express
it, to piace the expectation of the disturbance in the range of
his inner perceptive. The botter we succeed in doing this,
the easier will it be to induce motor disturbances by means of
suggestion. It is certain that some people have a peculiar
disposition which facilitates the attainment of the shaired could.
But such a disposition can be crusted by external conditions;
in this sespect the surroundings, moral influence, and the
manner and appearance of the experimenter play a great part.

Supposing we have succeeded in paralyzing the subject's arm. The appearance of one symptom facilitates the following of others, because it increases the subject's conviction of his susceptibility to suggestion. A mental state crosses which Posite Japet calls move Appelipm, a feeling of weakened with power which favours the acceptance of later suggestion—for

example, paralysis of the speech, the legs, etc.

This graties us to understood the gradual development of the disturbances of the muscular functions. This development is so many cases identical with that of hypnosis, which is often merely an inhibition of the voluntary muscular functions. Many methods used to induce hypnosis are alike in one purfitzlir-they direct the subject's attention to some change in the functions of the muscles. The method of the Nancy school consists chiefly in making the subject expect the closing of his eyes as strongly as possible, though certainly this method also aims at producing the dream-consciousness. However, the latter is an additional moment, and is not an absolute necessity. As we saw in our classification of hyproses, there tre minerous cases without any evidence whatever of dreamconsciousness. On the other hand, it is evident that when special stress is laid on the closing of the eyes, the dream consciousness may be unintentionally suggested as well. We may begin with any other member of the body just as well as with the eye. Her example, an arm or a leg leses its passer to move when I concentrate the attention of the subject on the tour of power to move. In fact, it is quite unnecessary to begin with the eyes, at the school of Nancy does; we can begin with any member, in Max Daniels rightly mosts. course, we should naturally begin with that abnormality which is most easily induced, because the acceptance of later suggest) tions is frecured by the abnormality already induced.

This principle of the effects of expectant attention illustrated

above is nowhere shown more plainly than in the voluntary movements. Modern psychology teaches us how early a movement is induced by the idea of it, without any voluntary action. Here we have apparently the units affect produced when the subject himself has the idea of the movement as when the experimenter arouses the idea in hypotons. But in the latter case not only is the idea aroused, but the expectation of its fulfilment as well, and this further factors the movement being carried out.

I now come to the discussion of sense-delusions; first of all, of the positive kind. Are we not exposed to such delusions otherwise than in hypnosis? Take first a very simple example of Max Desson's. If a man who is wide awake is told, "A rat is running behind you," he will have a second image of a rat for a moment—i.e., there is already a trace of buildennation, even though he is convinced that there is no rat

Modern paychology, fattowing such men as Dugald Separat and Taine, generally supposes that every idea includes an image—e.g., the idea of a halls includes the image of a halls. As, fatther, every central image transits to externalize itself, as Sturn Mill on particular has explained, when as idea is proved, there is plungs a tendency in externalize the corresponding mage—i.e., there is a tendency to influentation. We have that a centerny to take covered images for each objects (lines, Kirt). Many interesting details in this proves are given by Souties in La Degrottine state fairs.

But even if the ideas of waking life are associated with a trace of ballucination, there is a great difference between the effect of an idea suggested in hypnosis and that of the conespending ifes in waking life. In normal suking life a man can convince himself of the inaccuracy of a statement by means of his senses; and, apart from this, an alea in each has not the same tendency that it has in hypnosis to develop into a hallocination which dims the judgment. The difference may only be quantitative, but must not be disregarded. It is a necessary condition for the production of a sense-debuien in hypnosis that an idea be connected with the corresponding louge. "The power posterned by hallucination of producing connection depends upon the fact that we invariably refer the reproduction of our impressions to the sensory region from which they sprang; indeed, we not only localize them in this way, but even to a certain natent then project them into space."

(Jodl). A further condition necessary for the distinct development of hallocirations in a hyperonic subject is a complete change in his state of consciousness. Here the fifth lact of human mental life-wiz, that we have a dream consciousness completely distinct from the waking contclourness. states of conscionness differ from one another in two respons-(Wundt). In the first place, the remembered ideas in dreamconscioussess have a hallocinatory character-i.e., we try to drawns to objectify the images of memory; we do not recognize that they are images of memory as we do in waking life, but believe that we see, feet, etc., the real object to which they correspond; in the same way senso impressions do not produce accessil perceptions, but illusions. In the second place, in dreams appeaception is changed-i.e., the power of judging the experiences of which we are contribute is essentially altered. It is just this peculiarity of the decam-consciousness mentioned by Wandt which is found in the consciousness of such hypnotic subjects as are accessible to suggested semedelesions. I need not enter into details on this puint, as it has been thoroughly discussed in the chapters on "Symptoms" and "Cognate States." The chief point is the hallocinatory character of the images of memory; faintly imitated in normal states, in dream consciousness it is extremely plain, and appears in hypnosis in connection with illusions, to which dream-consciousness is also favourable. But we must remember that there is nothing strange in such a dramconsciousness, since it is often found in onlinery sleep and is always a potential phenomenon of sleep.

The production of this peculiar dram-consciousness is one of the chief points in hypnotising. An explanation of hypnosis need not include an explanation of the state of dram-consciousness in general; to make such a demand would be anreasonable and impossible of fulfilment as well, because we are quite unable to explain even the dream-consciousness of ordinary slarp. An explanation of hypnosis is only called upon to demonstrate the connection between the means employed to induce the hypnosis and the dream-consciousness of the person hypnotised. For this purpose I need only mention that apart from hypnosis dream-consciousness is often brought about in a similar way. Since we know that children may be talked to in sleep, and in afailts dream-consciousness in hypnosis only appears when some similar

influence is at work, the whole process should appear less mysterious. Todged, if we further consider that the ordinary sloop of affalts in which dream-consciousness is almost habitual is in many cases induced mentally e.g., by autosuggestion-then we have made considerable progress towards understanding this postinular state in hypnosis. I do not, however, go to far as Food, Lifbenult and many others who any that natural sleep is the immediate result of auto-auggestion. I much more readily admit that without any such suseful intersention sleep may have a chemical origin-e.g., the accumulation of the products of tissue-waste in the body, or may be produced by purely physiological processes. But it is a fact that we sometimes fall usleep because we are convinced by a purely mental process that we shall sleep. I have already mentioned that people often fall asleep when they believe that they have taken a sleeping draught. That this mental peocess is very often the result of another person's influence is explained by the first and second facts of human mental life stated by me earlier in this chapter. And here I will again point out that one person is frequently able to court an inmense influence on the whole state of coinciousness of another in other ways as well. The priest and the popular center, for example, sometimes under the influence of strong emotion, often produce an effect upon their audience analogous to hypnonis.

It is true that in many cases dream-consciousness in hypnosis. can be apparently induced by means which have nothing to do with the induction of sleep. When a hypnotic subject fixes his gare and his eyes finally close, this dies not appear to be the induction of a state of sleep. On this point, however, I refer the mader to my semarks on hypnesigeness in Chap. II. It is very probable that the idea of sleep is induced by such physical mesos, even when it is not purposely suggested Sleep may be brought about by the feeling of heariness in the eyes, through association of ideas (Forel); for we know that some people are in the balist of staring fixedly at some point in order to tire their eyes out and bring on ordinary sleep. For these reasons, I believe that when a balliscination happens in hypotesis some means of inducing dream-consciousness have always been used, and that such means apparently need not have anything to do with the induction of sleep. Even the fact that sense-delusions cometimes harpen without previous closing of the eyes does not contradict this, since the dreamconsciousness is not necessarily connected with the closing of the eyes. It sometimes comes on when the eyes are open,

as is seen in case of generateous communication.

From what has been unid we are able to find an explanation of sense deliations in the analogy between these hypnoric states and the decempatate. Without extering into any discussion of the theories that have been affected to explain the sense deliations of ordinary sleep, we shall find that it will provisionally help us in examining hypnosis if we take the state of consciousness of the hypnosis at which there are pronounced sense deliations as completely corresponding to the dream-consciousness of ordinary sleep. In both states certain impressions (memory images, or more stimulation of the senter) induce some-deliations.

These conclusions lead to the discussion of support, especially inslated regions. This rapport cames the subject to be more influenced by certain impressions than by others, and to respond to them by corresponding sense defunious. I shall speak of rapport briefly, as I have elsewhere don't with it at length. According to Nobet and Bertrand, who have been joined lately by Liebenult, Bomheim, Forel, and others, raygart, as already mensioned, is a state of alcep in which the attention of the subject is fixed exclusively on the hypnoticer, so that the idea of him is constantly persons in the subject's memory flaring the hypnosis. Bernheim compared these processes to the falling asleep of a mother by her child's cradle. She continues to watch over it in sleep, but over it alone; she wakes at the least sound it makes, but hears no other sounds, even the londest. An analogous phenomenon may be observed in waking life when several mothers are present at a children's party. Each reother's interest is centred in her own child, and it is purticularly noticeable that, though deaf to the prattle of other people's children, she never mosses any of her own little one's clever (?) sayings. Of course a careful study of the negative hallucounters will help us to understand entriest, as well be seen from my remarks on those hallacinations; but the most essential consideration in respect to respect is the individual influence which certain people can exert over others, which I

<sup>\*</sup> Day Rasport in der Hispanie : Laipelg, 6502.

have already described as the third fact of human mental life. For there is a simpler form of replant in which, without there being any question of inclusion, the hyperotic subject is amountable to the suggestions of one individual, but not to those of any other. We can well endeathed that an experimenter's influence should increase as soon as he has established a kind of authority over his subject; for the fourth fact of human mental life teaches in that influence increases with the expectancy of its being exertised. No new paychic law is to be found in hyporesis.

When we go on to discuss the negative influentations, two things at once strike its: firstly, that the subject does not we certain objects or hear certain noises; secondly, and more particularly, that the objects he does not see are just those he is forbidden by the hypostist to see. Of course, we know from experience that many things are not seen and heard in normal circumstances when the attention is directed from them. I almost invariable find jugglers well worth studying from a psychological point of siew; and I think we may utilize the juggler in our present case. Let m watch him carefully, and we shall see how he hides things, how he makes a change, how he substitutes one card for another under the very eyes of the spectators. But he knows how to draw off their attention by clover talk, so that even those who have watched him are unable to give an account to themselves of his proceedings. For example, cards are changed in the spectators' field of view; sense stimulation takes place, but does not penetrate to the consciousness. We find analogous occurrences in colinary life. It has happened to everybody to look for something which is before his eyes. In this cine the thing is not perceived although it is in the seeker's field of view and he is actually thinking about it. Attention may be so far diverted as to indece a state not unlike hypnosis. I secall the case of the motor cyclist seated behind his motor in a race: "The rider is fairly asleen; he is carried along by An markfur without knowing what is happening. Nothing wakes him but a paneture or a fall." Warthin thinks that some Wagner enthusiasts auto-hypnotize themselves at the sound of the master's music; and the story of Archimedes' death is another instance of the influence envited by diversion of the attention. The facts of negative sense-deliminars in hyproxis are not materialising, but in respect of such definitions there is a marked difference between hyproxis and waking life. If I tell a waking man who has a chair in front of him, "There is nothing there, neither chair nor table," he will see the chair in spite of what I say; but the hyproxic subject will not see it—at least, if he is at all susceptible to negative hallocimation.

Now, we can regard this process in the hypnotic as a disersion of the attention, like that in the waking man who fails to perceive things because his attention has been diserted from them. Many observations seem to substantiate this view. We know that negative sense-delusions sometimes disappear the moment the attention is re-directed to the object. I say to a subject, "When you stake, X will have gone away." When he wakes and is asked how many are present, he says, "Two; you and I," I then point out X, and tell the subject to look at him. Then he sees X, and the suggestion has lost its effect.

Parish has presented against this view of negative hallocontions. He counties that a negative hallocination in hyperate is mething but the subject's hallocinate helpschanner of a positive hallocination. For example, to tell a mist that he does not see a glass which is on the table is appearance to a command to an annuiting else in the place of the gloss. Still, the proofs that Parish brings forward do not settler to establish his purel. Perish's shall objection is to my size that a negative hallocination is a diversion of the attention; thus he holds to be averagened. Of course tilescents of the attention, thus he holds to be explanation; it should be considered a kind of psychological arbent appearancing the subject's monthly infect at the measure a negative hallocination. For the rest, in many times Perish's new that a negative hallocination is an autocompositive interpretation of a problem not invitable not tight.

Of course, although we may interpret a negative hallucination as a diversion of the attention, that alone does not explore its mode of origin; for if I tell a man in the normal state that there is no chair when there really is one, he will be all the more contain to see it. How can we explain the completely exposite result with the hypototic subject? According to limet and Féré, diversion of the attention is attained in this once because a conviction that the class is not there has been first established in the subject. It must be admitted that such an established conviction binders the perception faculties. If a man is at work in a room which is generally quiet he is for more likely to more hearing a slight unexpected sound than our he is prepared for. Protectly the production of negative some-definions in hypnosis is facilitated in a similar way. It must be remembered that the experimenter has nequired ascendancy over the subject and has become an authority for him. The subject is consequently inclined to believe excepthing he is told by the experimenter, and it is consequently that negative influentations are thereby favoured.

Nevertheless, these two factors, the direction of the subject's attention and the conviction established in Isin, do not suffice to explain negative hallacinations. However much he believes the hypnotist, without such motives as would induce belief under normal circumstances (as Bentwegni rightly points out) this does not alone explain such mistakes of sense-perception as are found in negative hallacinations. A completely changed state of commissioners must be added if we wish to understand negative hallacinations; the dream consciousness again, which helped us to understand positive deliasons of the senses. For dream-consciousness is not only distinguished by the mappearance of former memory-images as ballacinations; is in also characterized by the fact that termoimpressions, which under normal circumstances become feelings and perceptions, induce in it no feeling or perception.

Hence, negative influentations depend upon the co-operation of various factors: firstly, distances assessment which errates the tendency to negative senie-delessons; accordly, the subject's belief in everything the experimenter says, which faceurs those delenions; thirdly, the mental state which results from this, and which may be regarded as analogous to discrime of

the attention.

We can explain the analysis of some hypostic subjects in a like manner. It is known that an expected pain is nown actually fall than an unexpected one. The effect of a stimular may vary very considerably according to the mental artunder of the subject. We see this in operations; the subject feels much more pain when he expects the stroke of the knife than when it takes him manures; in the latter case he feels hardly any pain at all. It is the same thing with analysis in hyprocess, but it is still doubtful whether there is ever an enturely apostuneous analyzan withour suggestion. He may case, analyzan is more usually induced by suggestion. Here we may take it the subject's mustal state has been brought along hy his implicit holded in the experimentor, and is much the same as in diversion of the attention. To explain analgoria, however, it is necessary to call in the aid of dram-comclousness, just as we did in the tase of negative seme-delessions; for dream-consciousness has a decided tendency to prevent impressions, which would otherwise be pushful, from becoming feelings and perceptions. Be this as it may, the following ensential difference exists: as soon as a painful attendes has acquired a contain degree of intensity it wakes a person from ordinary sleep in spite of drams consciousness, but does not as a rule terminate a hypnosis; and Rosenhach pointed out long ago in his work, The Roffens in Sloy, how differently serious attends not in bealth and disease. We can more readily understand the analgesia of hypnosis when dream-consciousness is associated with the other factors mentioned above.

I now come to the discussion of some phenomera of moreory. Only those cases will be considered in which there is a deremoment of memory due to hypnosis the, cases in which the subject after waking from hypnosis remembers nothing of what has happened. It is a well-known fact that we forget contain events in ordinary life. We entirely forgot mechanical actions, such as the winding of a watch. But some things done with reflection and in perfect consciousness are occasionally forgotten even though we particularly intended to remember them. I will choose an example from my own experience, a thoug which we have all doubtless observed in currentwee. I take a book and put it in a particular place so that I may find it when I want it. At last I want it, but I cannot remember where I put it. I think in vais. Only when I replace myself in irragination at the moment when I put it away (a method which every one knows) do I remember where it is. And yet in spite of temperary loss of memory I did not put the look away when I was in a state of loss of consciousness; it was rather that I was at the time in another state of commonsness. This is in many respects analogous to hypeosis, the events of which are remembered only when the sub-ject B again in the same state of consciousness—i.e., in a fresh hypeosis. Of course these cases in ordinary life may deprive the mental derangements which occur in hypeosis of much that is urange and mysterious, but they do not aford a satisfactory exclanation of the phenamena. I mentioned when docusing the reemory before that the subject in hypnosis sometimes

remembered all the events of preceding hypnosis, and of his waking life. If we suppose the life of such a being as divided into averal periods a, b, c, d, s, f, in the periods a, c, c, only the events of those periods will be remembered; so that in period c be will only remember what happened in a, and in period c what happened in a and c. Do the other hand, in the periods b, d, f, both what has happened in them and in the periods a, c, a, will be remembered. A phenomenon such as

this calls for an explanation.

Max Dessoir endsovours to explain it by his theory of the "Dopped-Ich," or double Ego. He supposes that human personality is a unity merely to our own consciousness, but that a consutereally of at least two distinguishable personalties, each held together by its own them of memories. According to him many actions are performed mechanically though of mental origin-i.e., the agent acts unconsciously for the moment. For example, rubbing the hands when they are cold and even more complicated actions are performed automatically. Max Dessoir relates the following personal experience:- A friend calls on me with a communication which means that I must go with him at once. I draw rayoul to go out while he relates the details of a case that is evidently urgent. I put on a clean collar, turn my caffs, button them on, put my coat on and my latch-key into my pocket although the questions I put to him from time to time show that my attention is directed exclusively to what he is saying. As sood as we get into the street I am seized with the firm conviction that I have left the key beliefd. I go back and hust for it is every nock and comer in vain; suddenly I put my hand in my packet, and there is the kep." This shows that an across which a quite intelligible can be performed unconsciouslyi.e., without the agent noticing what he is doing or breaking of the conversation he is engaged in. The experiment made by Barkworth, a member of the English Society for Psychical Research, is much more complicated than this. He can add up long rows of figures while carrying on a Evely discussion, without allowing his attention to be at all diverted from the discussion. Recently some American investigators-Spring Amatrong, and Child-base beought forward interesting transities of enconscious cesebration. It is shown that during this activity, though it goes on in the lower consciousness, most people have a distinct feeling of effort. If, for instance, one

cannot recall a name and purposely infrains from trying to do to, there statistics show that there is still very frequently a certain seme of effort. This shows that, in the first place, there is an erronscious intelligence in men, an is seen in the mechanical rubbing of the cold hands, and that, in the second place, there an unconscious memory; Barkworth, for example, must have at least two groups of figures in his memory to make a third out of them; he must retain the third to add a fourth. But this chain of memory is independent of the other chain by means of which he carries on the conversation. Max Demoir thinks that we have been the elements of a second personality. At least we can picture to ourselves consciousness as consisting of two halves, a primary and a secondary consciousness, which act independently. The mental processes which take place commenced to the individual are called the primary consciousness and those which go on without his knowledge the secondary consciousness. Thus in Burkworth's case the primary consciousness carried on the conversation, while the secondary one mechanically performed the addition:

From the above it will be seen that what we call primary consciousness has bethere habitually been called commissioners. Generally questing, "consciousness money the seenal process that are subjectively percured. In future we shall give it a widen menting, or as to indicate the test of all our mental processes. Consciousness than fulls into two between primary and secondary. To proof combinion I shall in latture only use the most "consciousness" in this latter seems.

With regard to the existence of a secondary consciousness, much that is instructive may be learned from a study of automatic writing. I need my knowledge of this to Dr. Max Dessolr, whom I again thank for his unselfish and scientific help in the perparation of the previous editions of this book. Automatic writing has also been observed among uncivilized peoples (Duolitale, Bastim). We will now protected to examine it exceleds:

These are men who full-itually strom on the table or do samething similar while they are talking or thinking. When such people take a pencil in their hand they make all sorts of scribbled murks without observing it. This scribbling may be regarded as the beginning of automatic writing. It may, however, develop into something more than mere scribbling. Schiller says that when reflecting he has often covered whole sheets of paper with little horses (Max Demoir). Other

persons also automatically write letters and words, and this process is called automatic writing; it is evidently guided by a species of intelligence, as without it no rational words could be written. But this intelligence resides in the writer, though it may not be conscious in the ordinary sense of the word; it is the secondary consciousness which carries on movements and actions as does the primary constitutions, although the person concerned flore not remark them. Spirituallies imagine that this writing, which they call mediamoutic, is the work of some external force or spirit.

I now ush the sender to follow me through some experiments with adjustable uniting. I give X, a percel and sok bits to answer some question is switing—for managin, what he had for discuss productly; he is, however, in leave his hard produce and root to write on purpose; at the street leave his hard produce and root to write on purpose; at the street leave the point of the special of paper. It would not be manage that X doubt write down constiting he is thinking of. It would remain us of the experiments in thought-cording described on page 52. X, thick, of root well, and the fixed makes corresponding movements. But the process becomes pather different when I talk to the unitermeanable. We talk about the themse, the wordler, etc.; in the meanurum the lumit unite. " root well." It appears that this was posterilay's direct. In this most the fixed words without may posteritation of thought on the witter part; and this is already very confirment from the most thought condains.

Now, though X, did not know that he was writing, he know the fact which he account tonly wrote down; i.e., he have that he had had paid veril the day before. But people often write antennaturally about there they do not know. For example, when X, is taked what he had he flares every day last work, he will assumptically suite down the whole had dakes materially write down the whole had dishes materially, withough he cannot give a correct income by word of

receible.

Such experiments can be usale in hyperotic with good results, and many phenomenus, especially regative senie elebitions, are made more intelligible by those. I suggest to X., in hyperotic, that A. and R., who are teaffy present, have gone senty. A course cointels to request in A. and R.; to sententher bears not once them, apparently. When I ask him who is present, the pays, "turily you that I "; is not which I give him a preself, the point of which I gat on a globe of paper, and ask him to support the point of which I gat on a globe of paper, and ask him to support the point of which I gat on a globe of paper, and ask him to support the position is mixing. He writes down, "The Medi, Mr. A., Mr. R., and myself." Consequently be him given a coursel amount nuterintically—a c., without knowing that he is given in the case give the right superiors in the configuration with which he cannot emply retrictly in the ordinary may by wrated of mouth.

May Denotic also makes use of automatic writing to prove for theory that two mental processes can go on simultaneously in the one individual in such a manner that we might almost refer them to two distinct personalities. Objections have, certainly, been moved to this theory. Schrenck-Notting, in particular, thinks that if Max Dessoir does assume that a chain of processes in the primary conscience co-exists with one in the accordary he quite overlooks the fact that we are not here dealing with the question of processes in the two consciousnesses running their respective courses simultaneously. In reality the point is that the attention should be directed now to the one series, now to the other. Even if Schrenck-Nothing does not theny the occurrence of automatic arts, he considers that only such are possible as may result from practice. Lorwenfeld, however, rejects this objection, and with perfect right. "Schrenck Noteing has never attempted to explain how it is possible for two series of ident, whose members rapidly alternate in the constitutions, to continue so separate that the ego can only take cognitance of one of them with certainty." But rober objections can be raised to Schrenck-Notzing's views apart from this. He does not give or the least explanation how it is that post-hypnotic suggestions are carried out in spite of the loss of memory. I shall deal with this point in datal later on. Moreover, Schrenck-Nothing has done nothing whatever to elucidate those cases in which the two rhvins of memory are not simultaneous conscious processes.

There are cases in which the chairs of memory follow one another, imbend of both existing together in the way we have already sees. Man Dessoir tells of a person who took up his dream on a second night where he had left it off on the feat. Here then, the dream-consciousness tended to form a new clinic of momerics. The same nuther puts the following case of Mucario's with the last :- A glif who was outraged during an attack of spontaneous somnambelism knew nothing about it when she woke, and only told her mother of what had happened in her next attack. I have already mentioned (p. 126) that similar cases occur under pathological conditions. Comperts published a very interesting case a short time ago. A gir, nine and half years old, presented the phenomenon of doeble contriousness. At times she was transformed into her ment who was dead but was supposed to appear as a spirit on such recusions. On returning to her normal condition, the child was quite oblivious of what had occurred and remained to until the sgale fell iron a trance. It has also been observed that during an epileptic fit the patient semetimes remembers what happened in pertion science, though he known nothing shout them at other times; and a drunkered occasionally

recollects the events of a previous caronac in a subsequent fit of drunkenness, but not when he is sober. It cannot, therefore, he denied that two distinct chains of memories are min

with agant from hypersus.

We have seen that in the double conventionness-also termed doubling of the consciousness—of hypnosis, the subject, when in the hypnotic state, remembers the events of preceding hyprocess and of waking life, but that in waking life he only remembers the events of waking life. But there is also unother form of splitting of the consciousness. In this the life of the enbject, X., is likewise divided into several periods-a, A, c, c, e. J. In the period o X. only knows what happened in a and o and is f only what happened in  $\delta$  and d, etc.— $\delta x$ , in each period X, only remembers the events of the corresponding period, whereas, as we have already seen, in hypnosis and similar abnormal states the memory remains intact not only for the events of the absormal state, but for those of waking life as well. Dic-May has described such a case of splitting of the concionions in his story The Albert Con, which induced Paul Lindau to write a play entitled The Other Own. In this pioce a lawyer plans various crimes while in the samnambulic state, and finally breaks into his own horse. But we ere that the lawyer has not the slightest knowledge of the existence of the criminal, nor the criminal of that of the lawrer, though at times there appears to be a kind of bridge connecting the two states of consciousness.

As regards the objections which have been swited by some investigators or, that of Wundt and Hinchlaff, who think they are justified in placing the theory of the double ego on a braid with the manmotion of described possession-we must point out and emphasize the fact that when the theory is applied with just limitations it has nothing whatever to do with such assumptions. It must, of course, he understood that we cannot awarne, as is done by some foreign psychologists, that the individualism is made up of several separate personalitiesthat, for instance, a gentleman whom we usually know as Mr. M- carries with him alon the personality of Mr S-Any one who so conceives the theory of the double ego can only arrive at an abourd conception of human personality. For it stands to reason that the two chaim of memories belong to one individual, although we are sometimes able to fix their boundaries. There need he no reasporation with this theory,

We must counider it merely a diagram to demonstrate the fact that mental processes may go on within us unobserved, only at times giving evidence of themselves in a chain of memories which in point of time is distinct from the ordinary processes of the primary consciounness; it also serves to demonstrate the fact that when they occur similtaneously, though espanned from the processes of the primary consciousness, those of the according consciousness often appear as though connected by a chain of memories of their own. The fact that under certain conditions we can prove the existence of a whole series of such chains of memories which are partially independent of one another favours the view that the whole theory should only be considered schematic. We see this, for example, under pathslogical conditions in the case of the lusane, who sometimes represent different personalnes at different periods of their disease, then enalthing us to distinguish more than two chains of memories. But the same phenomenon may also be observed in the sane, in whom it sometimes happens that several chains of memories exist together in the secondary consciounces quite distinct from the chain of memories in the primary consciousness. We are also able to demonstrate a similar condition in hypnoxis. If we suggest to a hypnotic subject, first of all, that he is Napoleon, then, shortly afterwards, Frederick the Great, and, finally, restore his own personalty, also by suggestion, we find that each of the different chains of regmories goes on independently within him; thus Feederick the Great knows nothing about Napoleon, the latter nothing about the reality, and the real person hinself is quite unaware of the other two states. In short, we must invariable bear in mind that the theory of the slouble ego is only a diagram.

As regards double consciousness in relation to the hypocitic state, Max Despire thinks that hypnoxis represents experimentally that half of our mental life that is usually hidden; the part which is called secondary constitueness, something of which association occasionally enables us to observe in ordinary life, but which is absorbed states appears as a connected whole held together by its own chain of memories. According to Max Despire theory, double consciousness at it appears in hypnoxis is no absolutely new phenomenous, but is the esperimental representation of a psychic faculty latent in man Considered within these limits the theory is intelligible, although it does not explain everything. Max Despire, whose

adherents include Pierre Janet, Sidis, F. Myers, Gurney, W. James, and Lorsenfeld, endeavours to support his theory of the double ego in a special marrier which depends upon his proving that the state of consciousness in hyproxis is identical with the accordary comeiouness of waking life. For this purpose he cites the following case. One day he was chatting with some friends among whom was Mr. W., when a Mr. X.'s name was suddenly mentioned. This appeared to interest W. particularly, for he turned round and asked what had happened to Mr. X. When questioned W. did not know what the previous conventation had been about, so Max Denteir hypothesis him, and again questioned him while he was in a state of deep Inspirosis. W. then repeated every word that had been said below X's same was mentioned-is, the conversation that was hidden in his secondary consciousness before hypensis, came into concionness during that state. To support his theory will further, Max Dessoir mentions certain experiments in which Pierro Janet was able to induce hypnosis by suggestive par distraction. In describing one of these experiments Pierre Jaget writes:-"The subject, a woman, was thoroughly awake sed talking to M. Binet, I stood behind her and caused her to obey my coders unconsciously—to move her bands, write down a few words, aroner my questions by signs. Suddenly she ceased talking to M. Einer; and tunning round, continued mini may the conversation which she had unconstrough began with me by signs. On the other hand, she no longer spoke to M. Binet or heard him speak, and we had to wake her from the fresh hypnesis that had been induced." Max Dessoir thinks that he has a right to interpret this case also on the lines laid down by him. For the induction of hypnosis by automatic acts suggests that the hypnotic self merely represents a developmental pluse of the secondary consciousness.

Of course the assumption that hypnode is simply the demonstration by experiment of the pre-existing double consciousness does not make the explanation complete, for the question of the causal connection between hypnogenesis and this demonstration remains to be assumed. This point must be considered in the manner described by me when discussing the theory of suggested sense delawors. Dream commissions is very closely related to according consciousness; indeed, according to Eduard von Harmann it directly represents the second state of consciousness. Delicard also alarming the hypnotic phenomena with nightly dreams as far as the memory is concerned. At all events, these states percent many analogies not only in general symptomatology, but as regards the memory as well. I have already mentioned that processes suggested and earted out in hypnosis are occasionally gone through again in steep. If we accept the identity of dream-consciousness and hypnotic consciousness, I need only refer the scaler to my previous discussion of sente-deluxions for a further explanation of the causal connection between such consciousness and the influction of hypnotic sleep.

I now come to the discussion of past-hypotic suggestions, which I pursually explained by snalogy a long time ago. For theoretical purposes I will begin by choosing some action induced by post-hypotic suggestion, and will suppose it to be a case of hypotics without loss of memory, the subject consequently remembering on waking all that has happened. Whather the hypotosis belongs to the first or second of Max Denson's groups (p. 59)—Le, whether there is normal waking musciousness or dram-consciousness—is a distinction I do not intend to make; we have certainly seen cases in which the appearance of dream-consciousness did not cause subsequent loss of memory.

We will begin with a case in waking life. I give a letter to X., who has called on me, and ask him to post it on his way home, if he passes a letter box. Later on X. poes away, and posts the letter. Here we see that the commission I gave was duly occurred later on. From this case let us turn to a similar one with the subject V. is a hyperstic state without loss of number. I give him the same commission that I gave to X.—i.e., to post a letter on his way home if he should see a letter-

bee. This encomission also was executed.

Now the question is, What is the difference between the two cases? When we compare the second, or hypnotic, case with the first, one circumstance stokes us—i.e., that V. executed the commission without, or perhaps, against his will. Of course the fact that V. had passed the latter without availing it would not distinguish his case from X.'s. X., for example, walked home with a friend and passed a letter foo. While they were talking X. applicately did not notice the box, but he thou the letter into it without interrupting the conversation. Later on it occurred to him that he had a letter to post; he had only a

faint recollection of having done it. He did not know for certain, but by feeling in his pecket for the letter he convinced himself that he hid executed the commission extrasted to him. We thus see that he performed a specified act without the intervention of his will.

It would be more striking if X, should do some each action against his will. He would certainly not have executed the communion if his will had opposed it. What is striking in post-hypostic suggestion is exactly the fact that it is carried out against the subject's will.

The question now is whether we can find an auxilogy to that in waking life, whether an idea can in this case cross a motor or other effect in spite of the will. The answer must be,

"Very commonly."

We will suppose that X, has lost a dear relation. X, is to consequence and and depended, and cannot refusin from team. Morths pass, and he grows calm; but when the anniversary of the death arrives he falls again lists the same state of goef and tears, which he cannot conquer. The sixid idea has been enough to throw him, against his will, into a particular condition.

But we also observe the same sort of thing in the motor sphere. I showed, when discursing suggestion is the waking state, that an idea is commisses enough to cause a imprement in spite of the subject's will. But the post-hypnotic actions and movements carried out in spite of the will have a very great Ekenesa to the instinctive movements well known in psychology, which also occur in spite of the will. I may here call attention to the fact already membered, that you carnet keep your eyes open if any one underly and anexpectedly lirings his hand close to either of them. It is the same with other movements which are partly mental and partly physical reflexes, as, for comple, the raising of the hand to wand of danger. In these instinctive movements there may very well be an idea of the movement; the will is enable to inhibit the movement. The same thing occurs in the case of many porthypostic actions. This irresistible impulse is also found in pathological cases. I refer to those cases of mental disorder in which the patients' actions "appear to be impelled by instinct, though they are contriously carried test? (Schille). Uncontrollable acts, especially when accompanied by great emotional disturbance, play an important part in pathology.

There are, of course, cases in which a motive underlies the impulsive act; for example, a patient who form that everything he touches conveys contagion wars glasm on every possible occasion or else keeps on washing his hands. But there are numerous others in which the encorniollable action is the direct result of the idea of that action; and it is weartly these that bear the greatest resemblance to cases in which post-hypnonic suggestions are carried out. There are patients who feel an impulse which they cannot control, especially when alone, to me certain words. That cases occur which are not pathological o proved by the unions of many gunblers; but here the boundary between the normal and the pathological is classic. A gambler who calmly reflects may very well be able to foresee the ruin that awaits him, yet the amment he thinks of the game or sits down at the table he is unable to control himself. Great men of business are in the same case. As far as many great financial exterprises are concerned, it is altogether wrong to assume that the people who start them are arimated tolely by the desire to make money; it is far eather an irremshible impulse to lead a strengous life that is the true cause. I know of a multimillionaire who, through nearly severty years of age and children, is embarking on a project involving many millione, in which he is cisking much money and in bound to be beset by constant worries. In these great decrecial undertakings it is only the impulse to lead an active life that is the true incentive, and that is what the great man of business cannot suppress, Such processes impelling men to actions that are motiveless are in he found everywhere in daily life, which, if we look around us, presents munifold analogies not only for posthypnotic suggestions, but for all other hypnotic phenomena za well.

The seigms, therefore, does not be in the fact that postbypostic phenomena are carried out at all, but in the fact that the hypostical is able to implant an idea that produces a definite reant, just as an irresistable idea produces an incontrollable action. Now, if we bear in mind what I said at the beginning of this chapter, especially in regard to that feeling of dependence on the experimenter which dominates the subject and does not cause with the termination of the hypnosis, and also the subject's feeling of inability to seast which goes on increasing, and if we further pay particular attention to the second of the facts I then mentioned, examply, that anything the subject believes is capable of inducing the corresponding psychological and physiological effects; if, as I say, we remember these facts, then post-hyprocic anggestion cannot be so enignatical. And it must appear even less so if we bear in mind that an idea which is accepted in hypromic has, by means of the association of ideas, a natural tundency to create a state of consciousness and will analogous to that which obtained when the idea was implanted.

I have now considered why post-hypnosic suggestions are named out without or in spite of the will. I supposed a case in which the subject remembered the order given him in hypnosis after his woke. It is a more migroatical quanton why post-hypnostic suggestions are named out when the subject after waking has no recollection of having secrived the command.

For explanation let us return to the case of waking life, where X. was to post a letter. Now X. did not keep the request continually in his comcitumers, for we certainly saw that he apparently posted the letter unconsciously; yet he would not have performed the action at all if he had not really remembered my request. It is the same in poss-hypnotic organism. All post-hypnotic suggestions really remain in the memory, and are merely apparently forgotten between waking and fulfilment. Here, again, we must remember that our mental processes are divided into two groups, that of the printity consciousness in which they are subjectively perceived, and that of the secondars consciousness in which they are unperceived. We must further bear in mind that the state of the primary consciousness is not uniform, but, on the contrary, subject to constant changes. In one period we are corneious of ideas which are wanting in others. One period containes more than another. Now, if we call the sum of mental processes subjectively percured at a certain time the sphere of primary contributess, we may supsubject too much, we will only suppose two spheres.

We saw, when discussing the memory, that the hypnotic who forgot the events of hypnomic in waking life remembered them in later hypnosis. But he temembered the events of waking life also in hypnosis, though in waking life he was only conscious of the events of that life. We have, then, two different spheres of tenners consciousness here; one comprises the avents of

by process and of waking life, the other only those of waking life. We must further remember that the two consciousnesses are not achievably separated. Impressions made on the accordary consciousness very oben me to the primary, and the terral. The restoration of memory through the association of ideas, which I spoke of on p. 122; is an example of this, and alone suffices to show that the events of hypnosis are finally outsidished in the mind, even when them is loss of memory after waking; otherwise it would be impossible for the association of ideas to call up recollection. The events of the hypnosis were asperceived until existed to the primary con-

sciousness by the association of ideas. But, in addition to this, there are other ways in which it can he proved that the events of hypnosis are really only dominat in the accordary contciousness; and it is automatic writing, of which I have already spoker, and which has been investigated by Garney, F. Myors, Pierro Janes, Bianet, Pamirk, Max Dessoir, Flourney and others, that provides a special proof. For example, I hypnotize X., make him go through all kinds of scenes by suggestion and then wake him. When I ask him what happened during the hypnosis, he declares he does not know, No queter low much I press him to recollect what he experienced during the hypnosis and tell me of it, he is unable to do so. I now order him to write down automatically the events of the hypnosis. X. does so, and writes down everything that was suggested to him during the hypnosis. He could not do this if the events of the hypnosis were burished from his mind. Hence recollection was doesned as the automatic writing proved.

We have thus usen that it can be proved by automatic writing and other methods that post-hyperotic commands are family lodged in the secondary consciousness, and it is now may for us to show why the post-hyperotic suggestion is carried out in spile of loss of memory after waking. As we have serv, the command lies quiescent in the accordary consciousness, and the loss of memory is so far only apparent. But much goes us in the accordary consciousness often of a very exact kind, and there is no confusion in its thougher, this auptimus why the subject carries out a suggested order correctly, even when other waking he has no recollection of having received it.

The foregoing explanations show, firstly, why a post-hypostic

suggestion is carried ain without the will, or in spite of the and secondly, why this happens in spite of the apparent loss of message. A second question is this. Why is a post-hypotic suggestion carried out at the right moment? We already know (p. rts) that the moment may be appointed in numerous mays; either by a concrete esternal signal—e.g., the striking of the clock, or by fixing an abstract period, or by counting signals or days.

In the case of the arriving clock we shall find no new mental law, we find the same process quite commonly in normal life; it is the result of the association of ideas. The striking of the clock often reminds us of something we wanted to do at a

particular time, and we then proceed to do it.

The same thing happens when we me a knot in our handkerchief to remind ourselves of something. It occurs to me that I must write a letter to-morrow; I make a knot in my hundkerchief to remind me of it. The knot and the letter use then associated in my consciousness, and when I see the knot next day the idea of writing the letter rises from my secondary into my primary consciousness. Now, we see the same thing in post-hypothe aggestion (p. 162). The striking of the clock made the idea of taking the water-bottle and walking up and down with it rise from the secondary into the primary consciousness. This process of association is so powerful that it often takes effect even when the suggestion is not penergally carried out. I hypeotice X. on Saturday and tell him, "When you come in early on Tuesday I shall cough three times; you will then give me your hand and remark 'That is too surped." X. does not come till Thursday, but the suggestion is carried out, merely because I cough.

We will take the second case, where an abstract period of time was given instead of a concerts sign. Here the idea by in the secondary consciousness until it resulted in the correspending action. This was ranted out became work goes on in the secondary consciousness. But the calculations which take place in the secondary consciousness are not always quite exact; hence it often happens that the suggestion is not carried out punctually when an abstract period of time in given. For this also many analogies may be found in ordinary life. I say to X., "Remind me in an hour to write a letter." X. is bus, and thinks no more of the letter, but us entireless reminds me if it after some time. But as he has not looked at the clock. he is not purctual: the case is quite analogous to post-hypnotic. suggestions, where there is generally no perfect paractually, Some people suppose that in the few cases of striking puncreality some pacomeious nabulation of time takes piace, like the uncanscious regularity of our pulse and breathing. This would imply the existence of unconstitus mental activity quite independent of the secondary consciousness; the unconscious regularity of the palic is never directly perceived, whereas the processes that go on in the secondary consciousness occasionally rise into the primary. But there is no necessity to assume any unconscious activity in our case. We know, in the first place, that there are persons who can calculate time with some exactitude when they are awake, and, in the second, that others can do the same in sleep. Le, they can wake themselves at a definite time without hearing the clock strike. For further information on this point I refer the reader to pp. 162 and 163. In any case, the secondary consciousness of a person who carries out a post-hypnotic suggestion after a definite lapse of time has no greater task to perform than might be expected of it, considering what we already know concerning the primary and the secondary consciousness. Here, again, the most important point is that we need not assume any special faculty on the part of the hypnotic subject.

The third way of foring time is by counting signals or units of time (minutes, hours, days, etc., of p. 164 of eq.). Genery's explanation of this is grounded on the division of the consciousness into primary and accordary. While the primary consciousness is hony taking to the experimenter, the accordary works on independently, marking the signals—e.g., the shuffling of the feet, etc. When the tenth signal is given the accreation is carried out, just as other suggestions are

carried out at an appointed agual.

Guiney endeavours to explain many long deferred suggestions just in the same way. As we have seen, in these also the execution of the suggestion may be codered at the end of a series of minutes or hours or days, etc., instead of a definite date (p. 163). This may be explained in two ways. Perhaps the subject calculates the date after he has been given the number of days or weeks. Against this there is the fact that the subjects, when hypnotized in the intervening time, cannot give the date. We have the same sort of thing in Biamwell's experiments which I described on p. 163. In those of

Gamey's cases in which the subjects were hyperated in the intervening time they could count the days which had claused, or some to clause, before the suggestion should be carried out, though they did not know the exact date. On this account Gamey supposes an action of the secondary contcinuouss in such cases. He thinks that the hyperatic subject's sub-consciousness calculates days just as the waking person's primary consciousness does, and that is why the suggestion is carried out.

By accepting these different spheres of consciousness and also an independent activity of the secondary consciousness, we are better able to understand those hypnotic suggestions which are carried out in a state of complete loss of memory, for the suggested command remains fixed in the consciousness, oven if it only be in that consciousness which we have described as the secondary. The puretral execution of such a suggestion is only comprehensible if we admit that the two states of consciousness are similarly equipped; and the explanations we have already given show that this is no meny hypothesia.

The preceding explanations are chiefly intended to appears mate as much as possible post-hypnotic suggestion to certain habitual occurrences. There is no question of a complete identification of them. Still, I think I have proved that those properties which we are prone to consider characteristic of port-hypnotic suggestion are also met with out of hypnosis. There is one thing more which I must certainly point air as I have not hitherto mentioned it, and it might past for a characteristic of hypnosis. I refer to the fact that it is not the port-hypnotic command itself—4.e., not what was said to the subject, but the idea of carrying out the command, that later on rises to the primary commissioneress. If I suggest to a subject in hypnosis to ask for an apple an hour after he waken, he will do so; it is not my order, but idea of carrying it out, that rises into his primary consciousness. We must always earefully distinguish between these two points.

But there are many analogies for this, nlic, where there is no question of hypnosis. We are reminded, for imstance, of those dominant ideas which often result in actions, and whose origin is for the most part "unconscious" (Bentivegai). The source of the idea cannot be discovered by questions or be any other mema. But we need not refer to Lock's principle; Nil est in intellecte, gand non prive fuerit in sense, to justly the assumption that a dominant idea is the result of some external event that has formerly influenced the mind of the person concerned. Larwenfeld has very properly pointed out the determining influence which certain mental impressions possess. A sudden fright, for instance, may produce a lawing dominant idea. Freed mentions the case of Pascal, who from the time he nearly fell into the Soine was constantly pursued by the idea of falling into an abyes. But even events that do not directly affect the emotions-for example, quite ordinary occurrences in normal life-can by suggestion produce each ideas. It is quite a common occurrence for a patient to feel convinced that he is suffering from severe cordine trouble, because he has overheard some causal remark about heart disease. Friedmann mentions the case of a girl who beard a scream just as she was going out of the room and was told that a neighbour's child had fallen out of the window. If ever after that she wished to open the door, the recollection of what had happened evercame her; this placed her in a most painful position, as she was never able to go out of the room, even to make the calls of nature. It may very well happen that the original cause—the depermining factor—is forgotten, yet the dominant idea will arise directly the same prompting impression occurs. This is analogous to post-hypnotic organition, where, as we have seen, it is the suggested idea, and not the command, that rises to the primary consciousness. The same sort of thing occurs when imperative ideas lead to encontrollable acts-e.g., murder, encide, incendurism, etc. We may here include a possible cause of hysteria described by Brener and Fernd. They attribute the appearance of hysterical ayraptoms to some homy to the sexual organs which the patient has received in early youth but done not remember when he a normal waking state. As we shall see in the medical section, Recuer and Freud employ hyperosis to being back a forgettem injury to the patient's recollection, in the hope of affecting a cure thereby.

But it is not only under pathological conditions that some externally induced idea influences our actions and lealings without our being able to remembes how the idea was implanted in its. Let us suppose that a child two or three years old is often in the society of A. and B.; A. is kind and gentle. B. hard and unkind, so that the child gradually leaves to like A and dislike B. Let us further suppose that the child sees neither for a long time; nevertheless, when it does must them accidentally it will still like A and dislike B. The child, who is now several years older, will not know its own teasons; it will not remember the former combat of A and B.; no questions will bring this back to its mercory, get the effect of the old impressions remains. It is curtain that this is a common occurrence in childhood. Shrewd observers think it likely that a man may own his preference for some profession—painting, for example—to some childish impression, such as dabbling with culcurs; in this case also the early impression is furgotten by the abilit.

So far from this occurrence being confined to childhood we frequently observe it in adults. We are often inflaenced by unimportant expressions we have beard, though later on we cannot trace the effect to its cause. Our conduct with regard to experiences and theories is often the effect of early unconscious impressions. It is by no means an necessaries occurrence that a semark which has apparently passed unbreded

has really produced a profound effect.

Finally, we find something similar in the association of heterogeneous ideas. Rocent studies in sexual persension have drawn attention to the fact that the concurrence of sexual desire and some chance caperience-witnessing a flogging for example-may lead to lasting occurs perversion. It may happen that the original experience is forgotten, and yet the link between flogging and sexual excitament remains fast, so that witnessing the former invariably induces the latter. Even when the association is of the simplest kind, depending on the law of the astocistion of experiences, there is no necessity whatever for the original experience to be remembered; the effect corresponding to it invariably occurs. When two mental processes have once occurred together, securence of the one calls up the other. Here also, without any recollection of the concrete case in which the original linking together took place being necessary, a consupording and similar linking invariably takes place. In short, these cases are analogous to post-hypnotic suggestions, which, m we have seen, are carried out although the command has apparently been forgotten.

Moreover, we find that something similar impours in the

case of animals. Indeed, it is reainly on this that the training of animals is based. Smugglers train their dogs to avoid frontier-guards by having there constantly beaten and otherwite maltrested by men wearing the uniform of such officials. The consequence is that the dogs run away directly they see a man in the uniform of a frontier-guard approaching, Lonet describes a trick-act which used often to be given in carcuses—the little hung-backed tailor who tries to mount a huror but cannot, because it always lather out at him, and hims and cleases biar as would a rabid dog. The horse chosen for this spectacle was one that had been tented from a feat, more especially by a supposed tailor clad in a quaint custume, who maltreated it in various ways. Consequently, whenever any one similarly clad approached it, the horse lashed out, etc., but was quiet and obedient to persons in cediminy dress. There is no reason to suppose that an animal, any more than a man, recollects all the details of former injury because of the costame of its torturer. Much has been said in this connection of the suggestly of animals, but such remarks are merely the outcome of superficial observation. In reality, these are but mechanical associations in which, as in the case of the horse and the tailor where the night of the latter in his quaint continue caused the former to line and kick, one process calls up the other comesponding process without there being any recollection of the carrier experiences from which this linking together resulted.

In short, we have no occasion to consider it particularly enignatical that the original command in post-hypnotic suggestion is forgotten, and that only the idea of carrying out the command rises to the primary consciousness. The process is here exactly the same as in the cases just mentioned. It is the idea of what is to happen, and not the source from which that idea springs, that is remembered, and this, as we have just seen, is a process which has its analogies in many cases which

are outside the domain of hyperosis.

I have litherto spakes only of post-hypnotic movements and actions, and have endeavoured to explain the most important phenomena by means of analogy. I have still a few words to say about post-hypnotic sense-delissions, which are less easy to explain. It is true that those which occur in a feesh hypnosis hardly present any substantial difficulty. We have seen that the subsequent loss of memory is only apparent,

and that the idea really remains in the secondary commitmens. Consequently, it is not surprising that the suggested idea should at an appointed time transform itself into a semi-drinsian is a fresh hypnosis, which hypnosis course on through association when the idea reappoint. We want then explain the sense-delasion by means of the dream consciousness as I have shown above.

It is quite another thing when the semic-delision appears without a new hypnosis. For example, I say to some one is hypnosis, "When I cough aberyon wake, you will see a pigeon sitting on the table; you will semain thoroughly awake. The suggestion takes effect; the subject sees a pigeon where us pigeon is. But it is impossible to make him accept a further suggestion; that one point excepted, he seems perfectly normal. Whether the total mental state of such people is really normal, is a question on which Bentisegni speaks very clearly, and will he discussed in the legal section of this book. Now, form on we explain this particular sense-delimita? Dream consciousness does not afford a catisfactory explanation, although Educations Hastmann believes that it always co-exists with waking consciombess. But even if we admit this it beings as no rester a solution, for we should still have to explain how it happens that disan-consciousness is only manifest in respect to our point, waking consciousness being present in all others. But eyes if the dram-contriousness does not provide a satisfactory coplanation we find like occurrences under different circumstances. I do not mention the halfur leations of issuant persons, because it is exactly the addition of other disorders to their sense-definions which distinguishes them from the above case. But we find included sense-delusions in persons who for some reason or other "are disinclined to correct the creations of their own imagination." Knott-Ebing mentions the delimina of several famous men-the case of Socrates, who conversed with his Demon, and Luther, who threw an inkstand at the Statistical investigations on fullucinations among normal persons have lately been carried out by the English Society for Psychical Research. These results were presented by Sidgwick at the Congress for Experimental Psychology in London, in 1844, and they were discussed in fletall by Parith in his work Usher die Bengingbruchungen (Hallacinghian) and Maniser). Parish holds that sense-delegions in themselves are no indication of disease, but that usually when they

are present an abnormal psychic state may be demonstrated. Such definious are often caused by strong expectant attention, of which I have already spoken. This is very clearly teen in spiritualistic munifestations, which may be ascribed in great part to influentations of the spectators, who think they see spirits or other things in consequence of abnormal processes in their own beam. The visions of seligious enthusiasts, which annetimes take an epidemic form, belong here. In these latter causes the tense delusions usual from a puricular mental state which may be called a state of expectation. It thus appears that the induction of sense delusions by means of post-hypototic suggestion brings about a mental state when the idea reappears, which, sithough the subject is otherwise awake, has a great resemblance to this state of expectation, and is perfurps even identical with it.

Again, too much weight should not be laid on solitary cases of post hypnotic sense-delusion, as it is always very rare for the subject to remain quite awake and unable to accept fiesh suggestions. As we have already seen, a fresh state of susceptibility to suggestion, which we can only autibe to hypnosis, readily sets in even while post-hypnotic actions are being carried out. At all events, in these cases of post-hypnotic suggestion the more absurd the latter is and the more opposed to the achieve's natural disposition, the more readily does a fresh hypnosis arise. We can explain this process as the result of associations which create a state of dream-conscious-sess when the process in question does not harmonice with a

state of waking contribustions.

Several attempts have been made to explain hypersis from the point of view of psychology; but they are generally marred by two defects; (c) the assumption that more has to be explained than is really called for—a point I have discussed on p. 225—and (z) an attempt to explain everything by one concept, or rather by some catchword. For this purpose the concept "attention" was formerly much used, because the charge in it is most striking in hyporest, recently, however, it has had to give way to "charge in the process of association." I thought, at first, that hyporic phenomena could be explained by the one word attention, but gave up the dex more than fitness pears ago when I published my own theoretical considerations on the question in an earlier edition

of this book. It is not by the use of any term that we shall gain a clearer insight into the phenomena of hypnosis; that can only be achieved by methodical analysis and a careful consideration of all kinds of analogies draws from non-hypnosis life. At all events, a diversity of processes such as hypnosis presents cannot be explained by a catchword. Hirschiaff, also, has recently insisted with great justice that if we are to aniso at a definite explanation of hypnotic states we must at least distinguish between the two great groups (of p. 61).

As the different theories which depend on diversion of the attention are often met with, I shall develop them shortly in what follows. The ensuing explanations are not in contradiction with what has already been said, but are, on the

contrary, supplemented by it in many essentials.

We have seen that unceptibility to suggested idea of a movement induces the movement, the other of an object traces a corresponding sense-delimien. However strange and pandasinal the symptoms of hypnosis may appear to us at first eight, there is, as was pointed out on p. 231, no atsolate difference between hypnotic and non-hypnotic mass. As I mentioned in the passage just referred to, a collain degree of susceptibility to suggestion is normal, but it is not nearly continued to arms delimines, but extends to various other lends of processes as well. Lipps expresses a very similar view in his Thomy of Soft Proposition, which be considere closely related to suggestion. Bevery consciounters of any condition of relativity in mether consciounters necessarily implies the specific tendency to a corresponding experience. This tendency is, however, most direct, and consequently most active whenever such a state of consciounters is conveyed by read or applied to manifestation of the other, or to a speak more processly, when it stands in direct connection with the after-said phenomena of the scroes." But apart from the case in which the other person gives direct evidence of a condition, an

Lippe's There's for Keyleideng: I have simburd "Blaithlong" a word recently introduced into German, by "Self Projection." Atthings the laster is an agir town, and the color writers are authorize spoke of "Innya features." I cannot think of a better. A simple example will make Lippe's sensing clear. A specialist at bootful march after the Lippe's sensing clear. A specialist at bootful march after the personness in that sum's individual game, "Note by 1911 Tantotalists."

attalogous effect is produced, for example, by a command or an assertion. If A. tells X. to lift his gam, X. is inclined to do it, but he controls the impulse by his own will, by arousing the opposes idea. The following mample may make this clearer. When two people look at each other they both often begin to laugh if one assures the other he is going to laugh. This is a favourity joke among children. But the idea of laughing is a necessary condition for its appearance, and the stronger the idea the quicker will hughter cause. The lenghter may be prevented by according in ourselves the contrary idea, and if the will alone in not sufficient it must be supported by some senseimpression. Probably many of my readers have made the same observation in their own cases that I made when at school. We had a muster who often taiked such nemense that we were obliged to laugh. One day he saled me why I was laughing, and I told him the reason truthfully. Of course he could do nothing to me as I was in the right. After that, he never asked any boy why he was laughing, but we noticed that he invariably gave us bad marks for our exercises when we had been larghing. It was a petry revenge. To avoid that unpleasant consequence of our laughter, we then took to pricking ourselves with a pin directly we felt we could not bely laughing. The pain drove away the idea of laughter, and so prevented it. This is an example of the prevention of laughter by indirect means - e.g., the sense of feeling. In other cases the idea of laughter may be suppressed directly by means of voluntarily produced opposing ideas.

New, it appears that this process often takes place in colinary life; the idea of a movement, for example, results in a movement (Joh. Müller) if it is not opposed by a centrary idea. Thus the idea of a movement called up in a subject in or out of hypnosis has a tendency to induce the movement. But is waking life this idea can be made ineffectual by other ideas that are infinitely. Thus we may say that the hypnotized subject has lost the power of arousing certain inhibitory ideas—Le, in hypnosis the inhibitory ideas are inhibited. We have to think Heidenhain for having first pointed out the importance of inhibitory processes in hypnosis. Ministerberg also thinks that the sole characteristic of a suggested idea is in power to inhibit an opposing idea, and he considers this applies as much to suggestion in daily life (education, art, politics), as to the observance of incremed susceptibility to suggestion in hypnosis.

The case is, of course, the same with suggested paralyses. Here the idea of inability to move is suggested. In ordinary life we can make this idea ineffectual by means of others approved to it; but not so in hypnosis, for here idea of inability

to move transforms itself into a real inability.

Let us ses if the process in some delenious can be looked at in the same light. When we hear some one say, "There is a dog," we are inclined to believe it, as I have pointed out above. But our waking consciousness powers the suggested idea from becoming a perception, so that we decline to believe in the deg. But in deep hypnosis waking consciousness is supplied by dream-consciousness, the particular characteristics of which I have already discussed. Semi-imperiations are not transformed in the same way as in mental life; the normal course the ideas would take in waking life is inhibited, and this allows the suggested idea to become the corresponding semi-perception. It is the same with negative hallocitations, which we may consider as caused by the inability of the normal course of ideas to correct the suggestion.

We may, then, consider every hypnosis as a state in which the numed course of the ideas is inhibited, no matter whether they have to do with muscular activity, or with the external world. It is impossible for the subject to control the external these or to get forward his own; the external ones dominate his consciousness. Now, by attention we mean the power of giving prominence to certain ideas and other mental processes, comorporate we may my that there is an alteration of anomalous

in hypnosis.

But attention may be either spontaneous or reflex (Ed. v. Hartmann). When by one act of will we choose one of several ideas and fix our attention upon it, this is spontaneous attention, but when one idea among several gets the upper hand through its intensity or for some other reason, and thus represent other ideas, and draws suchairs attention on itself, this is reflex attention. Now, it is only spontaneous attention that is abred in hypnosis—i.e., the subject's ability volentarily to prefer our idea to another is interfered with, while reflex attention is undisturbed. Many investigators conceive hypnotism in this way. The works of Durand do Gros, Liebeauti, Beard, Richet, Schneider, Wundt, Bentinegni, and Stadelmann are in the main directed to this point, as latterly were Braid's aim, after his gave up his original physiological conception of in proofs.

More recent theories, also, which depend on the doctrine of association, approximate somewhat to this view. Schaffer looks for the chief characteristic of hypnosis in an alteration in the associations, but he does not distinguish between susceptibility to suggestion and seflex excitability in the rough and ready way so many have done. For him paggestions and refleres are phenomena caused by one and the same change in the machanism of association; and in both cases the controlling insperations are excluded. It is only by direct association that every idea that arises can be at once transformed into an action. As this is not only the mechanism of suggestion but of ordinary typical reflex action as well, Schaffer holds that suggestion is a mantal, and anatomical, cortical seffer. From this he concludes that the cardinal symptom of hypnosis is not suggestion, but that alteration in the mechanism of association which manifests itself in direct—so-called primary-amoranions. A whole teries of other authors also perceives that hypnosis, or at least niggestion, depends assertially on a change in the assertialise processes, though in some cases with more or less modification. I need hardly mention that in giving this prominence to the processes of association we are doing nothing in contradiction to the importance of attention, for both these mental processes are very intimately connected.

It should already be clear from the foregoing explanations that the phenomera of hypnosis have many more points of contact wite ordinary life than would be concluded from the discussions and articles written to satisfy a mere longing for semation. Some of the phenomena of hypnosis, e.g., motion without will, only appear mysterious on the most superficial observation for we have seen that an idea of a movement is smough to cause a movement without an act of will. These explanations have to a great extent appearimented hypnosis to waking life, as well as to the nightly state of dream. Indeed, every one will have recognized that phenomena which some eften considered the periogenise of hypnosis very frequently occur in daily life. All good observers will find "hypnotic phenomena" in daily life; they sends spontaneously from the chance concurrence and grouping of the necessary conditions.

Although a psychological explanation has thus been given for many of the phenomena of hyprosis, it is hardly likely that every one will be content with it. Thus Wandt has referred to the delects in the attempts at psychological explanation between given. He specially points and that the various analogies between hypnosis and waking life which I have given cuttainly exist, and show that hypnosis is a less attempt phenomenon than was imagined, but that they do not suffice to explain it; the main point is why the consided contentration of the attention, or, as Wandt now prefers to call it, the contraction of consciousness, comes about. Psychology has hitherto been unable to offer an explanation of the point; and Wandt believes that psychology is not to day able to offer any explanation without the said of physiology. We must also admit that both the manust and the materialist have a right to put further questions on this subject, expectally the following:—

1. What is the state of the central nervous system and the other organs during hypnosis? 2. What is the causal connection between this state and the phenomena of hypnosis? 3. What is the causal connection between this state and the methods which

induce hyperosis and put an end to it?

Unfortunately our knowledge of the physiology of the central nervous system it to incomplete that we cannot expert ranch from it. In upite of the great progress which physiology has made, we must admit that we know much less about psychical functions of the different elements of the hum than would appear from our physiological teat-books. As far as the brain is concerned. Hirschlaff thinks that all we can assume is first it, and especially its cortex, must be intact for mental processes to be carried out. The assumption of some investigators that all conscious processes take place in the cortex and the subconscious ones in the subcortical centres, is very justly apposed by others who point our that such an assumption lacks proof. According to Flechnig it is anything but certain that the activity of the secondary consciousness is not due to a minor degree of stimulation; and in both cases any stimulus operates through the same corebral elements (Liewenfeld). Considering how very fragmentary our knowledge of the central nervous system it, we cannot expect that assistance from experiments on minute that Heidenbain did; for hypoction is essentially a psychical process, and to draw conclusions from animals about mental action in men would be very daring. The investigation of mental processes may, as we have seen, he undertaken in (we ways-(r) by observing individuals, and (r) by calling the subject's memory to our aid. This last could not be done in

the case of animals. But any observations of unimals must be very elementary, by we use only obtain a glimmering of the / grocesses of their consciouses from external signs. Further, many physiologists make the greeous error of assuming that the successful stimulation of any portion of the beain proves that an act of will originates in that spot. Heidentain and Bubnoff have made remeasus experiments is electrical stimulation of the cortex of the brain on dogs poisoned by morphia. But the coordinates which these authors attempted to draw about the action of will in men from such experiments must be pronounced mistaken till it is proved that the impulse of the will in an electrical stimulation. For the above reasons I consider Heidenhain's undergroups to draw conclusions on hypnosis in man from experiments on dogs too basardous.

In spite of all these weighty doubts many attempts have been made to give a physiological explanation of hygicois. Heidenhain must have be mentioned first. He supposes that the cause of the hyprotic states is an inhibition of the action of the ganglion cells of the cerebral cortex, induced by continuous weak stimulation of certain nerves, and he thinks that this inhibition is analogous to reflex paralyses, as in these also the functions of the garglion cells are impaired by peripheral stimuli.

But even if we take the inhibition of the action of the gargion cells for granted, Heidenhain's theory does not explain the connection between this and the means used to induce hypnosis. For (1) Firstion unaccompanied by mental effort does not lead to hypnosis. Braid and Berger considered that there must be concentrated attention as well; (2) in any case there would be no causal connection here between the purely

psychical methods and hypnesis,

Besides this, Heidenhain starts from a mistaken premise when he supposes an inhibition of the ganglion cells. He concludes this inhibition from the lowered state of consciousness during hypnosis. But consciousness expresses itself in many ways during hypnosis. The procumen of consciousness seem merely to be concentrated on one point, which is chosen by the experimenter and is removable at his pleasure. Heidenhain maintains, like Despine, that the subject is not conscious of the external stimuli. Heidenhain was led to this experiments which has lately been taken by Landois and

others, by his almost exclusive observation of the movements of imitation (of Esp. III., p. 35). He supposed that the straject received a same improvious of a movement and copied it, though it did not result in a conscious idea. But he should have proved this first. From what does Heidenhain conclude that the sense impression was uncorncious? From the loss of memory after waking? But loss of memory does not prove that we have to do with an antonicious movement. The fact that subjects remember in the hypnosis, and also in later hypnoses, the limitative movements they have made, renders it far more probable that consciousness pensists. Besides, there is often no lots of memory whatever after waking, and finally, a suggestion made during hypnosis will invariably cause subsequent memory. As far back as 1880, when Heidenbain declared his views about the imitative movements, O. Rosenback explained that the processes were certainly mental and not as Heidenhain thought, unconscious somatic reflexes, Unfortunately Rosenhach did not at that time explain his own views in detail. Berger and others agreed much later that

these processes were mergal,

I also was enabled to stude the initiative movements. They only take place when the hypoctic subject has an idea of them. and knows that he is to make them. If they were unconscious referes, the subjects would imitate any person's movements. But they only imitate the one person who exists for them, i.e., the experimenter, and him only when they know they are intended to do so. A clear idea of the movements to be emissed in the first condition. I do not contest that when such experiments are often made, the instation may not become mechanical in later hypnoses, as happens in waking life. However, at first a clear idea is necessary; but physiology localizes the scat of ideas in the cerebral cortes, and there is no reason for placing them in another part of the brain in hyprosis, so that there is no popul of the comes becoming inactive. But perhaps there are mental processes in the sulcortical centres during waking life, about whose extent we know nothing. We know just as little whether, or in what degree. the cortex takes part in unconscious activity in waking life. But be this as it may, there is no reason for assuming that the cortex is inactive in hyperesis. Pathology gives us some information on this point. Many partially paralyzed persons whom I hypnorised, and in whom the outcode referes had been

injured by apoplexy, made no imitative movements in hypnosis with the paralyzed side, any more than they made voluntary movements either in, or after, hypnosis. But in this care exactly that part was excluded in which we place the conscious ideas of movement-i.e., the cerebral contex; the centres which cause the unconscious seffeces were not escluded. As, however, there were no imitation movements, this shows that without that part of the brain in which ideas are produced, them are no initative movements. For these reasons I roject the comparison between hypnosis and the state of Floriers' pigeon when its brain was removed. As is well known, Flourens experimented on pigeons, whose cerebrum he had removed. Untouched they remained quiet, but when excited they made all sorts of purposive movements, as if to walk, fly, But this behaviour of the pigeons must not be compared, as has been done, with the imitative movements of a hypoctic unitert. These imitative movements only occur when the subject knows he has to make them, and that implies a mental process that is excluded in the case of the pigeous.

My reasons for not complicitly rejecting this assumption of inhibition of the carebral cortex, in spite of Heidenhain's arrangeous views, are as follows. Although single ideas, single processes of consciousness, are not absent in hypnosis, yet the influence of the will on their course is limited. According to many physiologists the cause of this decrease in the power of the will is to be sought in a functional disorder of the cerebral cortex; but here we are treading on the delicate ground of hypothesis. Callerre, supported by Ferrier's experiments, thinks there is a functional disturbance in the anterior half of the cerebral cortex in hypothesis. He thinks that though this is not the seat of the motor centres, the centres have layer a regulating influence on the motor centres, but that this

influence is removed in hypnosis.

The works of many doctors unfortunately loss in value, because their authors expect too much of the physiology of the central nervous system, especially as regards the localization of functions. This applies to Landminn's work, Die Mehrhelt geiniger Parabalichteites in circus Individuane, in which he attempts to localize the processes of hypothesis in various regions of the beam. Others do not try to localize the hypothesubject's loss of will; Bernett, for example, put forward a physiological theory as early as 1851. He had already recog-

stood that it is not the genesis of separate ideas which is provented in hypersia, but the voluntary synthesis of them. And as the ideas originated in the gargion cells, Bernett supposed a functional disturbance during hypersia in the nerve fibres—the so-called fibres of association—which connect them. Jendrássik took somewhat the same view later on. It is easy to see that this theory is only the physiological theory of association in another form.

Other investigators went further: they did not merely ask what pasts of the Isaln are inactive; they tried to find the anatomical substratum of the artisity. Subjetch has applied his theory of along, which he bases on the function of the secretagis, to hyperosis as well. He considers the neurogia an organ which diminishes or increases the insulation of the ganglion cells, and he assumes that augmentation of the volume of its plasma increases its insulating power. He then proceeds to explain how this augmentation of the plasma in hypnosis is brought about by reflex action, but is ordinary sleep is the necessary result of external causes which are periodically at work (oracle of right, absence of sunlight). To this and other physiological theories Huschlaff sightly objects that they do not explain how this inhibition of a subject is mental functions invariably undergoes un immediate change at the experimentor's

plenure.

I will now give Hirschlaff's account of a further histological theory of aleep, which has been put forward by Daval, Lanottis, and Pupin. These authors base their theory on the discovery made by Golgi and Ramon y Cajal that nerve cells come into communication with one another simply by the contiguity of the terminal arboritation of the axis cylinder of one perve cell to the protoplasmic processes of another. Anything which tends to loosen or break this contact must therefore tend to being about inhibition or constition of the functions of the cells. But according to the authors mentioned, the work of all nervo elements is carried our by currents which are propagated in a manner similar to that of electric induction. This would justify the assumption that all functional disturbances of the acryous system, including hypnosis and aternal sleep, depend spon obstruction or interruption of conduction by contact; or, to put this in other words, contraction or total destruction of those finer terminal arborizations of the neurons which, under normal conditions, establish contact, renders the transmining

of itimali impossible. This assumption is all the more plausible if we remember that name-cells are originally nothing but asserber which protrade or retract pseudopodia. Use tea, codes, or morphia, a psychic moment may stimulate or concentrate the activity of some mental region or other, and may so act on the ametoidism of those nervo-terminals that me in contact as to produce a functional change in the nervous switem. This is the urase in which suggestion and hypnosis are to be assumed to act. According to this theory, hypnosis has the power of causing protrusion and retraction of the protoplasmic processes, and can thus create inhibitory ocntres, block morbed paths, and restore interrupted connections; in short, it can make the contact necessary for nervous induction, or broak it when abnormal. Hirschlaff thinks that this theory, which courts numerous adherents in France, has the advantage of explaining all the enignatical phenomena of hypnosis and auggestion. But it suffers from the misfortune of being based on false premises. The theory of the contiguity of the sensors was long accepted by physiologism, but recent investigations have shown that lesion of the neurons does take place. But apart from this, Hunchlaff thinks that it requires a great storich of inagination to conceive how insumerable protoplasmic processes can lay themselves together, approach, or recede from one another, especially when one takes into consideration the modern view that all mental processes are located is the cercinal cortex, and that an idea, or defines mental act, is not confised to one gargion cell, but depends upon a whole series of such cells whose orderly co-operation is nucesary for the production of the amplest mental function.

Charge of the circulation of blood in the brain plays a great part in physiological theories of hypnose. Braid thought of this, and Carpenter supposed cerebral arcarnia, just as Hack Take has more recently inaggined a partial spasm of the secocla. Heidenbarn also at first supposed that assemia of the brain was the cause of hypnosis. He soon gave up this opinion, for two reasons. (a) The investigations of Forder with the ophthalmoscope disclosed no sort of charge in the vessels at the back of the sys in hypnosis. The charges here solved correspond to those which take place in the brain when its blood supply it altered. I can continue this by my own observations. (a) Heidenbain saw hypnosis appear in spate of intentions of nitrite of ampl, which causes hypersmin of the built. Sabiali and Bouclest have, on the contrary, found conduct hypersenia during hypnosis. Knarap finds a narrowcaronida and of the vertelinal asseries during hyperosis. Regules studied the caustid palite with the aphygraograph during and after hymness. He concludes from the changes in the carotid pelse that there is retardation of the circulation and congestion of the carebral capillaries during hyperbris. He thinks that his vacw is confirmed by the ophthalmoscopic inentigation of Luys and Bacchi who found hyperensis of the back of the eye Laker concluded that there is a charge in the amount of blood in the conduct cortex during hyperoes, because he once observed tedens of the face after hypnetic sleep. This he assumed to be an analogous phenomenon to the facial ordena observed in the angioparalytic forms of hemicania. But he was more careful in his other conclusions. Tamburni, Scopills, and Kaan also investigated the circulation of the blood during hypnoris, but only in connection with Charcot's stagos. In the same connection Meynert investigated circulation in hypnosis; he speaks of a strong cramp of the nunculature of the vestels in hypotonia. The three other lastnamed investigators used several methods;-(s) Mosso's method, which determines the volume of an extremity, and concludes from a decrease in the mass of blood contained in it, an increase in the mais contained in the brain. (a) The action of cold and but compresses on the head (Kaan), which cause amenda or hypersenia. From the resulting chargos, ie, from the resultion or mulification of the hypnosis, a conclasion is drawn between this and the mass of blood to the beain. (1) Ophthalmoscopic investigation of the vessels of the votion. I do not outer toto detalls of the different experiments, because they are valid for the stages of Charcot alone, and therefore only have a historical interest. Apart from this, these are gaite unmarkorthy methods for ascerming the cases of blood in the brain. Brodisans made a sense of substent investigations on a subject who had been frequenced. and proved that there is no antagonism between the circulation in the begin and in the arm, either in sleep or in the waking state. Mosso's method may, therefore, be dismined as of no account. But Hirschlaff points out that apart from this, Brodmann has shown that the relative conditions of the tirculation of the blood in the brain are as yet of no general

use in discussing the theory of sloop, and of course we must

be just as cantious in regard to hypnosis.

Douken has put forward a theory based on the condition of the blood and the state of the nerve elements. According to him arbitrary reduction of the activity of the seasy-organs accompanied by reduction of the associative activity to a minimum produces amenia of the brain. The cortex and cortical paths participate is this process, but what share the subcortical elements have in a, has yet to be shown. According to Dollkon a certain conicity of the nerve-elements results from this amenia, rendering them responsive to stimuli far below the normal limit in strength. The nerve-elements are thus enabled individually to acquire a better state of nutrition and the increase of functional capacity arising therefrom. Soil this purcicular tenicity might also be considered primary.

Failure to distinguish clearly between cause and effect is one of the sources of error frequently found in those theories of hypnosis which are based on the state of the osculation of the blood in the brain. Even when there is a change of electration in the beam in hypnosis, it is a mistake to think that the changed circulation causes the changed functions. Hass very properly points out that when a person who feels ashamed blushes, it is not the blushing that causes the feelings of shame. As a muscle noods more blood when it is at work, but does not work more because more blood flows to it; as the stomach when digesting needs more blood than when it is inactive, it is also not impenbable that the brain, or portions of it, when they are active need much blood, and when they are inarries but little. Then if we take the vosomotor diseurbances as proved, it is by no means proved whether they are the cause or the effect of hypnosis.

In fact, Cappie takes the opposite view. He thinks that the increased activity of the motor centres in hyprosis draws too much blood to them, thereby causing anomia of the other portions of the beam which are necessary to consciousness. But this theory does not give a satisfactory explanation, for it arbitrarily opposes the motor centres to the parts of the brain necessary to consciousness, and there is always consciousness in hyprosis. The principle from which Cappie starts is the one put forward by Brown-Sequard. He thinks that hyprotism is the sum of dynamo-genetic and inhibitory nets—a.e., that the increased action of certain parts of the brain [dynamo-

genetic act) causes document action of others (inhecitory act). That Fechner excognized these principles very clearly is above by the fact that he apole of the antagonism existing between the various spheres of psychophysical activity. He was also fully aware of the important parts played by nutrition and the circulation of the blood. The theory of an amagonistic distribetion of the blood was used later on by Meynert to explain

morbid mental states.

Test as Capple assumed that there is during apparent an altered activity of certain centres and associated charges in the circulation, so Wandt has suggested as the physiological turn of the phenomena of hypnosis a double interaction. neurodynamic and encompter. The immbility of any central shortest depends not only on its own condition at the moneyt of stimulation, but also on the condition of the other elements with which it is in association, in such a way that excitation of the neighbouring element lowers its own exembility, while a condition of inhibition favours discharge of overgy. This is the neurodynamic reaction. At the same time, according to Wandt, there is a vasounotor rurrion, for the blood contems and functions of the organistand in such a relationship to one another that increase of function produces increased flow of blood, decrease of function, deposition of the blood flow. Winds further argues that netwodynamic compensation favours visconotor compensation and vice veral, and seeks in this way to asplain the phenomena of hypernia by viewing the chief symptoms from this standpoint. He then eiders to the centre for apperception, which, hypothetically, he regards as the substraction of the process of approcessors. He believes that we have here an essential difference between dreaming and hypnosis, though he does not ascribe alsolute importance to this difference. Certain phenomera of inhibition of the processes of the will and the attention are common to both, also a tendency to increased endubility of the sensory centres leading to hallumentary interpretation of same-impositions. But there are distinguishing characteristics; attention is only justially abased by suggestion in hypeosis, but the inhibition of the will in sleep affects both apperceptive and motor processes. It is from this psychological difference that Wardt develops his physiological theory. In dreams these central regions which are associated with the precess of asservention are more or less in a state of inhibition, and

nearly all the compensatory excitation is conducted to the seasory centres, but under certain elecanutances in hypnosis a compensatory increase of feritability arises in the apperception centre in opposition to the existing partial inhibition.

As I have already mentioned, Wandt has raised against my attempts at a psychological explanation, the objection that I have not answered the question why in hypnosis consciousness is not contracted. I have, however, put the question which must be met by physiological answers (p. 26%). The third question I put is this: What is the cannal connection between this state and the methods which induce hypnosis and put an end to it? I do not find that this question is in any way amwered by Wundt's physiological theory, and against Wundt's physiological explanation I must raise the same objection as he has raised against my psychological speculations. In addition to this, the centre of appenception as supposed by

Wundt, is little moss than a hypothetical assumption.

Vogt's theory is tassed on similar principles to Wandi's, but it contains a series of comprehensive and elecidatory ideas, especially that which he terms "constellation." By this Vogt understands the whole cerebral mechanism corresponding to a mental process, and he considers it the resultant of conscious and unconstitute processes. He thinks that bypoons is brought about by an alteration of this constellation, and be refers the phenomena of suggestion partly to inhibition, partly to increased initality, and partly to the opening up of fresh paths. "Let us, for example, consider the mechanism of cataloger. I lift up a hypnotized subject's irm. passive indvenient causes a sensation of movement. associative paths leading from the centre in which this idea of movement is localised are rendered non-conductors by the dissociative effect of hypnosis. In consequence of this the nerve wave (neurokym) caused by the passive movement of the arm is, for the most part, transferred to the centriperal paths leading from the centre in which the idea of the movement was aroused, and thus sets up truscular contraction corresponding to the position passively imposed on the arm." Voge also endeavours to explain other phenomena by the action of the neurokym (nervo-wave)-e.e., by the nervous excitation that reaches the carebral cortex. A further part of Voge's theory beam on the origin of sleep, ordinary and hypnotic. He attempts to prove that sleep is caused by the

azimulation of certain centres, more especially the reflex centre for shutting the numerior orbicularia occult, by the action of the neurokym or nerve-wave. But certainly Vogt thinks that a vasousator reflex centre here plays a more important part, its stimulation causing an increasing ametric of the brain and thereby drownings and along.

I shall not enter into any criticism of Vogt's theory, as the same objections apply to it and nearly all other physiclogical

theories, as were raised to Wandt's.

Finally, I mention the theory of Preyer, who pets the matter thus:-An activity of one benrichere of the brain rosults at hypotosis; fixed attention causes a rapid accumulation of waste-products in the parts of the brain which are active, and by this a quick local consumption of the ourgen of the blood is caused. In consequence of this, favoured by the failms of the onlinery change of stimules of the nerves of error, there is a partial loss of the activity of the cerebral cortex. The munial loss of activity of one region would then ceplain the increase of activity of the other, became the inhibition would disappear. Bembein objects to this that it does not explain a rapidly induced bypnosia, for it is hardly conceivable that waste-matter should accumulate so expedity. Similarly, the sudden termination of logonasis is not comistent with this. As we have seen the one wand "wake" is enough to end the hyprosis at once. We should be obliged to suppose that the simple idea of walcing was able to fissipate the waste-matter or make it of no effect.

I do not think that any of the physiological theories betheno propounded can be considered in the least degree situifactory. This does not imply any reproach to physiology in general flut it should be remembered that as far as physiological theories go we large about reached the limit of our knowledge. The connection between mind and body is still purely hypothetical. The fact that stimuli which differ to bid a milling extent here produce such different effects is a favounte objection to materialistic theories and physiological explanations of hypotosis. Ludwig Busse has recently called attention to this in his excellent work. Mind and Rady. The owner of a ship who receives a telegram from the captain, "Reached the Cape," would be very differently affected if the telegram were "Reached the Cape," yet the physiological stimulus differs last.

very slightly in the two cases. We must admit that similar considerations show the value, or rather the valuelessness, of physiological theories, I containly think that as long as we are totally enable to understand how an idea, roused for example by the word "wake," charges the subject's whole state, we must be very sceptical as regreds physiologists' theories. Even so unhaised an observer as Louis his immically stated that, according to his own private statistical reckoning, the great discovenes of physiology had an average existence of four years. There may be some emggeration in this, and I do not think it should be applied to all branches of physiology. But the endeavours of some investigators to explain mental processes by means of our present knowledge. of the central nervous system point to a disquirting tendency to over-estimate physiology; and I think that Meyneri's assertion that cerebral physiology is no longer a problem will cause many to share my doubts. But I think I can hest think how devoid of all value physiological theories of hypnosis asby calling attention to the contradictions between the views of Mendel and Ziemsen. Mendel explains that in hypotais we have to do with a strong stimulation of the cerebral cortex, wille Ziemssen declarer that the central cortex is too little stimulated and the subcortical centres too much! Under these circumstances we may, surely, be allowed to hope that in feture less will be asserted and more will be proved. Such contradictions as those between Membel and Ziemston would he inconceivable if it were not for the presence in their works of bott such speculations as those with which medicine is in the habit of repreaching philosophy.

## CHAPTER VIII.

## THE MEDICAL ARRESTS OF HYPHORIS.

Ir is cortain that the present interest in hypnoris depends upon in therapeolic utility. According to the generally accepted view, hypnoxis is a state of increased amountability to suggestion, although, as we have seen, other factors play a port in it. We shall see that in its thesaponic application other properties of hypnosis may also have to be considered. At all excess acreased susceptibility to suggestion plays an important part. It follows from this that suggestitative costs areat from hypnosis, and that the thempesties of suggestion in, and our of hyproxis, are complementary. It is the Nancy school which has poissed out that there are many suggestions without bypoons, and it was the first of all to recognize the therapeutic value of purely empirical suggestion. The Nancy school, also, has never denied that many were exced or relieved by suggestion long before hypnotic suggestion came to be studied. A patient's conviction that his condition will improve has always contributed to such improvement. Every capable practitioner uses this suggestive treatment, which is as old as disease. Most of the miniculous cures one hears of we may now consider the results of the amountains employment of empeneal apprention. There mest in such cases be some means of conveying the suggestion; and this can be accomplished equally well by the influence of some distinct persometry or by an object. The first is the rase when, for example, special powers are ascabed to a particular person, as in the healing of Jeroboum, whose hand, the Bible tells us, was motionless, but recovered the power of movement through the peoplet's words. In the second case an object conveys the suggestion-for example, a spa, a particular medicine, etc.

The great point in the therapeuties of suggration is to implant in the patient's mand the coro close that he will be timed. But the physician is not always able to achieve this even when the patient has great confidence in him. In such a case hypnosis is a good means of implanting the idea and raining it to take root, provided the sleep be deep enough. If we admit that confidence occasionally facilitates the sere of disease, we must also admit that hypnosis is a sulpable

accession to therapeuties. We have to thank the late Dr. Licberght, of Nancy, for having been the first to use hypnotic suggestion methodically in therapentics. It is true that verbal anspection was occasionally used by the old memoritz, Klupe, Lawarne, Johnsd, and many others, as Du Prel and Pick justly point out. But method was entirely waiting. Braid also recognized and used engrection, but he did not recognize its fundamental significance in hyperctic therapemis; this fact has to be mentioned in spite of the opposite view held by some investigators, Bramwell, for example, and it in no wise detracts from Braid's great services. Some investigators in Breslau, for example, Friedberg, and more especially Berger, in 1980, concluded that hypnosis was a therapeutic agent. Berger saw a hemiplegic patient make movements in lapmosis which he could not make awake. He saw sufferers from locomotory ataxy coase to stagger during hypnosis and for a short time after. But Berger, to whom the simplified method of Liebern's was unknows, also overlooked the great importance of suggestion. Many people, who had never heard of Liebenalt had seen that, from a medical point of view, a state in which contractures and paralyses, analyssis and pain, etc., could be induced and removed, must be of great importance; but Liebeault was the first to find the right path, while Bortheim, Wetterstrand, Forel, and others, developed the methods and made them known.

It is not astonishing that objections have been made to the therapeutic use of hyperois. The littley of medicine teaches that hardly any essential progress has ever been made in that science without a strangle. Every one knows how she use of quintee, of vaccination, and of emetics, was contested; how the water-care was treated with contempt, and how R. Remak was attacked in Germany before the galvanic battery was accepted in the medicine chest. Ewes selects that when Lings laid his method of treatment before the highest officials in the land he was displicted with the remark that there were quite enough juggless and mounts banks about without bardening the country

with fresh ones. And Ewer himself, who had done so much to introduce massage into Germany, had often enough to put up with a supercilious shrugging of shoulders and deprecatory emiles when he fest uncouned to talk about manage before physicians. And yet in the present day all these methods are reckoned among the most highly-valued treasures of the modconschest. Certainly some people now try to prove that a was only hypnotic treatment and not mental treatment than was opposed. Now, since psychotherapeutics is almost universally recognised a legitimate branch of medicine, whereas the importance of hyperois is still under discussion, those who opposed hypnosis, but accepted mental treatment, might consider themselves justified. Still, to prevent my falsy tales enoping into the history of psycho-therapeutics, I must by the strongest stress possible on the fact that, in reality, the afrack was directed more, or at least quite as much, against psychotherapeutics in general, than against hypnosis is particular In 1860 Estable for example, who mus of first opposed by no one but no... Force and others certainly joined the opposition. some after-distinctly stated that psycle-therapeutic untrinds with a from of quachers, and quite unmorths of being called medical trinteent. Hypnosis was not specially singled out for attack it was the acceptance of psychotherapeutics as a legimente frem of treatment that was opposed.

Although some people may at first have meribed too swick importance to hypnode treatment, the attack on a was a failure. I am not going to point out that it is often impossible to draw a sharp line between bypactism and suggestion, in between the latter and mental treatment in general. But one thing must not be forgotten; it was the study of hygnosis that first proved how much one he achieved by mental industries in therapeuties. Although, as already pointed out, suggestion and mostal treatment had often been used before, the fall extent of the efficiety of these methods was telly established by hypotetism, which thereby essentially benught about the desylopment of modern psycho-therapeutics. It was hypnotism that first does general attention to suggestion in waking life, to the questions of work and occupation, to medical measures in education, to instructing the patient, to diversion, the power of the will, and many other branches of psycho-therapeutics which had all been too long neglected. And even if we can to-day dispense with Impression in many cases in which it was used

before general mental treatment was sufficiently and arroad, we must not forget that we owe our knowledge of these accessory therapeutic methods to hypensis. We are now, therefore, able to dispense with hypnosis in many cases in which it formerly appeared indicated. Still, I think that in the present day is will be found an essential adjunct to other mental methods of treatment in many cases. I cannot alingether agree with Heller, Jolly, and others that exactly the same results can as imperially be obtained without, as with, hypnesis. We should rather, in the present day, employ hypnoris in those cases in which mental treatment is imferred but cannot be efficiently carried out with the patient in the waking state. Hypnosia is, therefore, of value to medicine in two ways: (1) it has provided an inducement to the further study of psychotherapethics in general, and (a) it is a remedy in itself.

It has pling been sided why to many authorities have pronounced against suggestive the superiors. Three are three answers :-(1) Even an authoray rung to wrang-indeed, a teal authority does not believe in try one initiability; (2) all as called eatherlies are not necessarily nabotinities; (2) samey who are authorities in one field are just for that reason not no in marker. Much injury to referee, and particularly to medicine, has notice through these three points being overlooked. Let us consider the last two Birthan.

In all secences, benices the real authorities there are mon who are mintabenly supposed to be as. Finking often makes "authorized" out of those who line no real irientific greatness. A min is called an authority; but when it is asked what he has done there is shrugging of shoulders, for when he has done nothing. Buch psendicasthurbers—these have slongs been such persons—are much inclined to pure judgment on quantum they have not extended. They positive and credit is she to a locally, which a elever writer, Knil von Tholer, a short time ago railed the art of putting second on the stage. Their judgments are of no salar, but it is interesting

to note that no small number is adverse to hypnosis.

But I do not recen to key that all who have appoined the thesapeutic mar of hygmetic are pseudo-authorities; on the contrary, true authorities, such as Mayeart and others, then supposed themselves decidedly against it. But in mentioned above, it shoes not follow that because a man is an authority on one matter he has a right to these authority on another. A great histories to automorp is not in a problem to pass sulgarest on modeline. New, many of those who have objected to the theoryestar not of hypocole are authorities on matters that have nothing to do with therapeatica. Physicises, or well at laymen, often line aight of this. A man may be sealesm in the kinology of the Irala, and yet be incompetent in theraposition. And there is, moved up, no more connection between the art of healing and the Marting of the health than there is between is and affirm up. If I may call the set of healing a others, the tracking of the built in committing quits must from it - at least in the present day. Fourthtentisten, whose no one will acquee of floring to preficient or matterny, those he was their most arisent admires, but experient the openior than the one of heaving should not be contined with the knowledge of anatomy. Therefore I pushed the judgment of a man who may be an authority on associated it is played to be building of the besie, in necessary and valuable, but has no infinite connection with the building on; is of as train wright later as the judgment of an astronomes would be.

We should always bear the foregoing considerations in mindwhen dealing with other cases. As I mentioned on page 11, the committee of the Prussian Medical Board was requested by the Kultuonisister 3 to intuitute an inquiry into the thetapetric value of hypnosis. Prom this it might appear that medical boards have a just claim to sit in judgment on hypnotism. It would be better if moderal bounds confined their affention to erafters that concern them; they do not constitute courts of reference on purely scientific questions. The report on hypno-tim submitted by the Berlie-Brandenburg Medical Board shows in the clearest manner possible how little importance attaches to such documents. It has been vigorously criticized by Fores, Leewenfeld and others. Leewenfeld very properly points out that no one who wished for a competent apinion on the electric light treatment would apply to medical men, as they are not specialists on the question. Now Mendel, Mumter, Gock, and Ascherborn sat on the commission, but up to the present na one has heard that the three last named ever had any experience of hypothism. As regards Mendel, his hostility in public to hypnotism has long been known, but it is also a fact that he does not disdain to use it in his private practice, even recommending a specialist when he deems it necessary. "From this it appears that, in Mr. Mendel's opinion, hapmotism is only a scientific and permisable method when sanctioned by Mr. Mendel." Gamperts was quite right in bringing the contradiction between Mendel's public utterances and private practice to light. Perhaps those persons who consider the report of the abore named board of medicine authoritative, may be induced by these explanations to modify their opinion somewhat. The East Pressian Medical Board set to work in a much simpler but more scientific way. A list of guestions was sent out to medical practitioners, and the result of the loguley which was

Note by trincibler, — Kell and initiate in Minister of Ecclesianized Affairs, Public Improvement, and Medical Affairs (all three offices constitued in one Minister).

published showed that only a few doctors had used hypotons therapeurscally, that some cures had been effected, and that no

injursous efforts had been observed.

Of count, the foregoing considerations are not in my way intended as an attack on the right of opposition. Bender, really scientific opposition always tends to advance science; only the opposition should not be allowed to take the jorn of an a priori decision, as some of the opposition of hypothesis have done. The therapeutic importance of hypothesis should be tested, as Viethow, who was certainly scepacal, recommended; not rejected absolutely, as was done by some "accentific in-rangement."

We will now comider singly the objections stude to hypnotic

Unitment or to aggressive thempeuties.

A chief objection was made by Ewald of Berlin, who "decidedly protested against calling suggestion medical treatment." He did this in the interest of physicians. Forei's

seply to him will make it clear what he meant.

\* Ewald protested against the expression 'modical treatment by hypnotism." He said that medical treatment means medical art and medical knowledge, and that every shepherd boy, tailor, and cobbler could hypnomia; only self-confidence would be recessary. I think we have much more right to protest against this way of treating a scientific question. Has not medicine drawn a countless number of its remedies from the cradest empiricism, from the traditions of the shapkerd boys? Canson every cobler inject morphia, apply blisten, and give apenents if he has the material? Yet we do not despise these remedies, nor boths, nor massage, esc. But Professor Ewold deceives himself greatly if he believes that a delicate agent like bypnesis, which directly affects and modifies the highest and most refused artivities of our minds, could be manipulated by a shepherdbuy and neght to be handed over to him. Medical science and psychological knowledge, the ability to diagnose and pentitive, are all increasing to its true. It is true that farmen have operated with it, just as charlatans have succooled, and continue to sected, in all provinces of medicine. Should we on that account leave the practice of mulicino to them? Long enough, much too long, science has left the important plies nomena of hymnole to 'shephend-boys and their fike'; it is well time to make up for the delay, and to devote ourselves to a thoroughly seignfific examination of the series of phenomena

which can complete our views of psychology and of the physiology of the brain. Medical therapeutics must not remain behind when great results are so be obtained. But these results can only be obtained by a thorough study of the proper

hypnotic methods."

Ewald's objection amounts essentially to this: hypnosisshould not be called medical treatment because it is unscientific and perhaps unprefessional. But this conviction is easily aroused in the case of a remedy we wish to rescue from the charlatans. The novelty of the rensedy makes it appear alien to the practices of the medical profession. I have already discussed this point in detail in another work. I In any case we cannot fail to recognize that they who andrawout to gain the sole use of such a remedy for the medical profession are thereby fighting against quackery, whereas men who, like Estald, simply set down the use of such remodes as quarkers, and therefore to be excluded from medical treatment, are in reality aiding quackery, although perhaps unintentionally. As a matter of fact when dectors emphasized the dangers of hypnom and claimed that the practice of hypnotic treatment should be restricted to members of the medical profession only, Emil Musclek-Drounberg disposed of their claim by referring to Ewald's statement that any abeptierd-boy could hyproties.

Benefikt's objection to the use of hyperetic meatment, became of the mysterious impression it cames, belongs to the same category as Ewald's. But sport from the fact that there is less mystery about the matter than was formerly supposed, it would be perfectly indifferent to a practitioner whether a remody took effect from the mysterious impression it made, or through suggestion, or through chemico-physical influence. The point is that it does act, not in what manner it acts. Certainly Rosenbach has postured against the use of suggestion in therepeaties, and he is a rational investigator and thoroughly neognoses the importance of psycho-thempeuties, which he was led to appreciate by studying hypoenis. Rosenbach sits lays stress on the mysterious character of the impression produced, but his objection to suggestion lies essentially in the fact that is expects better results from other thempeutic measures. Besides, I think I have shown in the theoretical section (is, 197).

<sup>\*</sup> Modil, Journale Brisis, Bruttgust, 1902, p. 274 of up.

that a thing is often considered mysterious which is really a phinomenon of energyday occurrence. Moreover, Benedikt reconsistents, that is order to lease the impression of mystery, hypnomistable for induced by the use of a magnet. But as a magnet only acts by suggestion, according to present-day equivier, Benealite has unwittingly recommended the use of a

mysterious agent.

If I believed that in some cases a mysterious agent would be marked to a patient I should not benitate to use it; for were I to do so I should be neglecting my duty as a doctor, which is of more importance than any scientific agaheard. Naturally a physician should not make use of a remedy the employment of which is contrary to medical ethics; but I am firmly convinced that he has no right to deprive a patient of the benefits of a remody because he thinks it acts mysteriously. Consequently, I should not besitate in certain cases to sand patients to some mitarle-working spring-Lourdes, for example; and, in fact, fifty to slaty panents are pearly seat to Lourdes from the Salpctridge (Constantin James). Charcot has expressed the same opinion in his well-known work In Fee gar galent. When questioned about faith nealing, he replied among other things: Elle intéresse Californ tout midade, le fait essentiel de la mildrepar Hant la guirrison des malades saux distinction dans le providé coratif a mettre en marre. It cannot be denied that faith and emotional excitement produce many results at Lourdes. We may well believe Roumelare's statement that the water from Marsolles cared a patient who believed in it. But overif bypossis were only effectual from its mysterionness, its mewould not be threeby commindented.

The temporary loss of will ran hardly be considered an objection to hypnotic therapeutics from the ethical standpoint, though it has occasionally been brought forward. If it were, we should have to give up the administration of chloroform, for there is loss of will in chloroform mecosis. The main pairt is to choose a trustworthy experimenter. We only take chloroform from a pursue where we can must to administrat the angusthetic without danger, and whom we believe will take no

advantage of the loss of will induced

But a far more important objection than my of the above is the danger of hyproxia. Even if we cannot comider hyproxia absolutely safe, the dangers about not be conggerated. \* The heat currents that use he much about a roundy or method of cure is that is might olas de doninge; for what can never de pusitive ham can never do positive good." These words, which were used by Rust in speaking of antificial someombalism, should always be remembered if we wish to establish the true value of a therapeutic systhod. What would remain of our medicinechest if we three away overything that might occasionally do harm? How often has a drug that might prove fatal been administrated even in a case in which there was no danger in tife? I need only mention deaths from chloroform; Thiern and P. Fincher say that according to an old calculation there is one death to every thousand administrations of chloroform, had this extinute has since been medified. In many verposioperations there is a remote possibility of a fatal issue, if only from infection with crysipelas. With regard to other means and methods. I must refer the reader to my work on Making Ethio. In addition to drugs that are generally known to be dangerous, such as morphia, strychnine, and helladonna, others, such as potassium chlorate, trional, potassium indide, antilelesa, quening, etc., which are often considered harralms, have frequently produced famil results. Educed August Schroder his collected hundreds and incodereds of cases which have terprincipled fatally through the use of those drugt. Billeoth also in his day called attention to the great dangers from carbolic acid; and Lewin, in his work Die Netermerkung der Jesurisolted, gives a long list of serious, though not fatal, after effects which have been observed from the use of such drugs. Such accidents are not confined to the internal administration of drugs; they are not with in all other kinds of medical procodure. Mendel's treatment by suspension has not only caused great injury, but even death:

Whether or not there are dangers in the may of drugs is not the question. We must mk:—(a) Do we know under what conditions the danger appears? (a) Can we remove these conditions and the consequent danger? (g) And if we unnot, does the advantage to be galand by the justime of seweigh the danger be runn? Now, we can answer these questions as regards hypnosis, and at the same time institute a comparison between the latter and other remedies. We know under what conditions hypnosis is dangerous, which we do not know about many other persetties, such as morphia, chlorologie, are Hypnosis may prove harmful if we employ improper methods or daregard contra-indications. We may therefore unswer the

first two questions in the afformative, since we know the contraindications. With regard to the third question, it is possible that replement concomitant effects may be produced when matheds that are not quite so harmless have to be employed if we are to attain our object. But I think that if a physician is concirnation in his efforts, the discomforts to which the patient is exposed—a short bradachy, watering of the open, cot,—are almost invariably alight compared to the advantages which may result from the hypnosis. I also think that those authors who publicly dinown hypnosis on theoretical grounds agree with me on this point; otherwise it would be impossible to coulain how such men as Gilles de la Tomette, Mendel, Rieger, and Einswanger, who have said so much about the dangers of hypnomies, by no means refrain from hypnoticing. The danger of hypnotism has been greatly exaggerated. The inhabitants of a fillle town once left off enting potato-soup, because a woman fell downstains and broke her neck after eating some. The terrified inhabitants were convinced that the accident was caused by the soup, became it happened after the woman had eaten some. Such removing is rather out of place in scientific discussions. We should be unable to apply any remedy if the principle four her ergo profer has were admitted in this way. Mr. X. had an apoplectic fit a fortright after he returned from Carlshad, therefore Carlshad causes apopleay; Mrs. V. had an attack of rheumation while being treated for hysteriz in a samstorium, therefore expatoria cause rheuesatism; Mr. Z., who was sent to the hills for insomnia, returned with symptoms of cancer, therefore hilly districts are to be dreaded as conducive to cancer. It cannot be desied that a causal connection between bypnesis and the subsequent appearance of morbid symptoms has often enough been manufactured in this wayfor example, by Binswanger, Ziemsten, and others, although Pauly long ago warned observers against drawing such false conclusions. What drug has not been followed by severe symptoms after it has been in use for some time? And where would it lead to if we assumed a causal connection in each a manner? In all the cases I know in which hypnoxis is augposed to have had injurious results, and which have been published in detail, it can be shown as in the cases of Siglas, Briand, Lwolf, Jolly—either that important precautions were neglected, or else that a connection between hypnosis and the dueste was summed without any peool. 19

Let us now consider the dangers of hypnosis in detail, and

at the same time the means of preventing them.

Mendel maintains that hypotasis induces nervoument; that network people grow worse, and sound people neesters through its use. But he was only led into this error because he was prescriptioned with the harmless method of hypnoming and miking suggestions. It is quite true that prolonged fixed attention, as practiced by Eraid, may presince amplement sensations; but such discomforts are of no great significance. To avoid making estilling suggestions is of far greater inpostures, as Hermand already knew, Whoever has seen the difference between a valued who has received an ecoting suggestion and one who has received a therapeutic one will recognize how differently the two suggestions act. Judicions observers are right in warning against such sports, as Sawelshkaja did a long time ago. A man who makes an alaming suggestion-e.c., an imaginary fire-just to satisfy his own curionly, need hardly be automithed if unpleasant results course. In this way we can explain the very serious effects that have often been observed, for example, by Nolan, Lombroto, Bremond, Finkelberg, etc., after public exhibitions of hypnosis. Hirschlaff justly remarks in his essay entitled Letterbypeatismes and Arathole Heilbonde that charlations readily undertake experiments that cannot be carried out without a certain amount of danger to the subject, because they hope by so doing to impress the patient and gain his confidence. Esperience also shows that parsents are often worse on days following bad dreams. Consequently we can hardly be astenished when terrifying suggestions made in hyperents produce like results. Such suggestions should not be made at all, or with the greatest caution, care being taken to do away with all suggestions that are not quite harmless before the waking. Even if a mistake is made during hypnosis, it is of little consequence provided the subject is properly watered in the milliner used at Narcy and by all who follow the prescriptions of that school. At the time when so much nomente was talked about the dangers of hypnosis, most people knew nothing these removing a suggestion. They thought it couugh to blow on the subject's face to waken limb, and were automated that he did not feel well afterwards. I are surprised that more muchief has not been done in consequence of insufficient technical knowledge. That is the danger-not hypnous.

To show how a suggestion should be slone away with, I will suppose that an earting suggestion has been made to a subject. One should say something like this: "What excited you is gone; it was only a dream, and you were mittaken to believe it. Now he quiet. You feel quiet and conformable. It is may to see you are perfectly conformable." Only when this has succeeded should the ambject be wakened; and this should not be done suddenly, in it is better to prepare the subject for waking (Sallia). Of course the experimenter will me his own method. I generally do it by saying: "I shall court slowly up to three. Wake when I say three. You will be very constorable and contented when you wake."

With technical skill and care on the part of the experimentor there is no danger of sendering a subject nervous nowadays; and under such conditions there is less danger to be feared from hypnosis than from many methods of treatment that are

termed harmless.

It is asserted that one of the special dangers of hypnosis is that it causes bysteria (Guinon), re at least brings it out in persons who have a latent tendency thereto (Jolly), or sets up hydrical convolutors even in persons who have never had them before (Anton). It is true that hystero-epileptics age constimes theore into hysterical consultions in hypnosis, but I decidedly contend that the consultions are not caused by the hypnissis. Like other similar occurrences, they are probably due to the mental evolument which often accompanies hypruns. Some persons fall into them whenever anything exertes them, such as a slight noise, for example, a falling book, a bell. Tenid persons sometimes faint when they are electrified (E. Remak); others, especially hystero-epileptics, may even fall into crownsiom. I also think it quite possible that exching impressions may bring about such attacks in persons who have never had one before. Gorodiches tells of a lady who had her first and only attack of hystero-epilepsy while being chlosoformed. Consequently we must not deay that the excitement caused by hyprosis may occasionally bring on such attacks. Cases of this nature were described by Chargignon long ago, and later by Solow, Finkelaburg, Verneurl, Drosdow.

Although the danger of hysterical attack has to be taken into consideration, it sught not to be ecapperated. The chief question is not whether such an attack occasionally occurs or not, but rather whether or not permanent hysterical attacks are

caused, or attacks to which a patient is subject are permanently aggravated by the process. Up to the present all known experiones shows that such is not the case. Certainly we occasionally hear of a case in which personnest musts have apparently resulted from the treatment, in spins of the use of peoper methods. The nearest approach to such a case seems to be one published by Jolly, in which a girl who was infering from programine muscular distrophy became permanently subject to attacks of hysteria after a hypnotour had treated her by suggestion. But a cacelel examination of the case purs it in a somewhat different light; and Jolly himself admitted that the fatigue and exhaustion which follow hypnosis penbably also belied to bring on the hysterical consultions. It cannot be doubted that the enercises and suggestions employed to inches movements in cases of minerial districtly may prove estremely exhausting.

Instead of supposing hypnosis to be a cause of persuasers attacks of hystorical convulsions, we are far more justified in assuming that when once a complete hypnosis has been obtained we have in our hands a trustworthy means of persuasers by lessening the convulsions. In reality, an attack of hysteria is not nearly to important as some would have us believe; and we certainly know that hystorical attacks are sometimes artificially induced during because for purposes of

demonstration

I am eatistied from certain cases of my own, that hysterical attacks do not indicate the recessity of stopping the hypactic treatment. This agrees with the experience of Sperling, Kniksuer and others, who have also had cases in which; though there were attacks at first, yet cures were subsequently obtained. These cases also show that the attacks are by no means perminently increased in number, even when they take place at the first or second attempt to bypnetice. The old meamerists-e.g., Noinet, Paységur, Meumer, Dedon-were well acquainted with these convulsions, which they called prise, and even thought them a favourable sign, which was certainly a mistake. A man who is so very much ahaid of being confronted with an attack of hysteria should make it a principle never to attempt to hypostize a patient who is either excited or afraid of hypnosis. We shall see later on that dread of hypnosis does not contra-indicate its use. It is also said that mental disorders, and even mortial delusions, may result from hypnosis.

When any one who has frequently been hypnotized becomes the victim of delusions, we must be on our guard not to assume any causal connection too hastily, especially if a long interval has clapsed since the hypnosis was practised. People without expert knowledge may be misled on the question of causal connection by the nature of a delasion. It is well known that detenions are industred by the ideas presalent at the time; it is therefore not surprising that in procest years we have frequently met with the delunion of being imagnetized or hypnotized. When this delusion occurs in a person who has been hypnotized at some time or other, it does not necessarily follow that the hypnosis has had even the alightest injurious effect on him. The most we can assume is that the nature of the delasion, which would otherwise have appeared in some other form, was in some way determined by the beprottic expreiments on the subject. Delusions of thought-transference effected by persons at a distance occur in a smiller way. Of course an ahould owner think of denging the possibility of mental disorders being rained by the unscientific use of hypnotism; such cases have represedly been reported, especially after some public hypnotiser has made his appearance—for example, by Finkelaberg in connection with Hanten's public experiments, by Lombroso is connection with Donato's; also by Weinbaum, Schmitz, and others. And we must not overlook the fact that the enormous excitement that prevails at such exhibitions and its emotional effects are liable to cause at light temporary mental abenution in persons who are that way predisposed. There is also a certain amount of connection between hypnosis and those forms of mental derangement which follow spiritualistic résuces. A state of trance-an, an auto-hypnosis-is often caused by such seamors; and an Charcet, Gilles de la Tourette, and Hennshorg have shown, such intense cavitement may occasionally lead to mental disorder in persons of a highly emotional disposition.

It has been mentioned by some as a further danger of hypnocis. Sieli, for instance—that after repeated hypnotism an incedimate desire for its repetition may be set up. Reclassmen, of St. Petersburg, reports that a lady who had undergone hypnotic treatment subsequently made one of her friends continue hypnotising her, because it was so pleasing. Such a result of hypnotic can be avoided by taking proper precautions,

but especially by making counter-suggestions.

I may here mention some slight adments which are occusinually found after hypnosis, especially in cases of hysteria They are often the result of a bad method or of auto-suggestion, and occur after both deep and light hypnosin. The chief symptoms are fatigue, heaviness of the limbs, drowsiness, and faintness. In some cases it is very difficult to combat these symptoms when there is great hysterical nuto-argueribility, and it may even be necessary to discontinue the hypnotic treatment. In most cases we can prevent these auto-augustions by employing the peoper technique, but as a rule this is only possible if we suggest from the beginning is, at the first experiment—that any feeling of fatigue or despites will disappear after waking. It is often advantageous to get rid of the fiftigue before the awakening. There is no necessity to overrate these attendant physiosiena of bypoosis, even if they are nepleasant, and certainly no one will do so who remembers that suggestion is often propossible for temporary after-effects in the case of other remedies, especially where there is hysteria.

Although the dangers of hypnotism which we have hitherto described are of no great practical importance, these are others that are much more serious in that respect. I mean the increwed tendency to hypoton which includes a greater liability to auto-layerosis, and the heightened susceptibility to suggestion in the waking state. Mobile maintains, that apart from a wilful crasing for hypriosis, the danger of involuntary hyprions is quite the only danger from hyprotic treatment that seed be considered. Cities have been described in which spomsneous hypnosis has occurred a short time after a subject has been hypnoticed injudiciously, and even all the events of the provious hypnesis have been reproduced by auto-augmention. Bremuse has described one such case, and Solow another. But the cases in which, as I suspect, unscrapulous hypnothers sometimes induce such hypnoses intentionally are far more serious, for aphiects become filled with a feeling of complete dependence on the hypnotiser, see in constant dread of falling under his influence, and even when no real form of insanity is developed they lase all freedom of action and finling of independence, Lloyd Tuckey has published a rang of this kind; and the communicate employed as claimogents by so-called mesmorizers would about come in him. I firmly believe these diagons are much more serious than those previously seen

Exerce morestility to bygones

The salest way of guarding against these dangers is to make some such post-hypricis suggestion as follows to the subject before waking him:—"Notody will over be able to bypnotice you against your will or without your consent; you will never fall into hyprosis against your wish; nobody will be able to suggest anything to you when awake; you seed never feas that you will have seme-delusions as you do in hyprosis," exc. The available to such dangers is counter-suggestion. Permission to hyprosise should certainly only be granted to persons whose character and knowledge afford a guarantee that they will

do no harm, either introttonally or unintentionally. that it may be objected that though an occasional me of hypnore may not be huntful a long one, involving a repeated ! induction of the state, might be so. The objection is just the atter but it might also be made against the use of vanous other remedies, since we do not yet know whether a long use of there neght not endanger health. Experience is the only way to decide such questions. I myself, as well as other investigators, have watched cases in which persons were Ifpealedly hyprogred for several years without ovel results. thill apart from this, it will hardly ever be found necessary to hypnotice drequently in such cases; even when the treatment has to be carried out for years, an occasional hypensis will suffice. Even when for special reasons a patient has to be hypnotized repeatedly for years, a commentious and experienced physician will be quite able to guard against any possible; dangers. We shall always find counter-suggestion the surest preventive of slanger.

I do not intend to discuss purely theoretical dangers in detail. Mendel fours etimolation of the cerebral cortex, while Ziomusen and Maynott four a loss of power of that part. To pay any attention to such a combination of theoretical dangers which are always mutually contradictory, would only land us in

truttest speculations.

In the foregoing I have discussed two objections made to the therapeutic use of hypnosis and suggestion; first, Ewald's assertion that hypnosism abould not be called medical treatment; and secondly, that it is too dangerous to allow of its practical use. A third objection to be mentioned is that hypnotic treatment is superfluous. Certainly it is selfous denied that patients do occurionally get better, and are exercised by hypnotic treatment; but it is note the loss objected

that the same results can be obtained without hypnotic treat-

most, or that a lasting improvement never summe.

It is true that many cases in which hyperosis med to be considered necessary can be treated without it newsdays Other methods of mental treatment constitute the most imporant substitute for hypeosis, and include not only suggestion in the waking state, but the special instruction of the patient, etc., as well, to which I shall return in the next chapter. And here we must note that psychotherapeutic treatment without hypnosis is essentially an emecone of hypnotism. It was not until the results of hypnotic suggestion had enabled us to scooping the extest to which human beings, particularly patients, are susceptible to psychic influence that the importance of almost all of these methods of mental treatment was made That this often conties or to despense with hypothis in cases in which it was formerly employed, is neverthelms a result of Aypnotism. But apart from this, hypnosis is still in a series of cases the quickett and heat means of obtaining satisfactory results; and even if new comedies have sendered hypnosis superfluous in many cases, there still remains a na inconsiderable number in which that meatment is indirated. And it is containly a fact that even where other remedies prove successful, hypnosis often produces the same results much more speedily, so that if we affice to the old principle Auto citi et juccede, hypnotic treatment frequently has the advantage.

The assention that hyperotic treatment does not produce any lasting cures may be answered as follows. The smalls are by no means transless; on the contrary, a large number of lasting trares have been observed and published. I have myself som many cases where there was no relapse for years. One cannot ask for more, The objection that the improvement may be only temporary is thus not justified. But even were this so we must nevertheless be glad that we have found a way of procusing even temporary relief (Purgotti, Schouter). For instance, to difficulties of mentionation it is a great thing if we can succeed in subduing pain for a time, although we may not be able to prevent its recurrence. If pain returns a new hyprosis may be induced. In any case, therapeutics is not yet so far advanced as to give us the right to reject a remedy because it has often

increly a temporary value.

Another objection, closely related to the foregoing, is that hypnotic treatment only affects symptoma, but does not care the underlying disease. Discussing this point with Briswanger, Richard Schule says: "If, as in the case before us, we can enable a woman who has been paralyzed for two years to walk, then, even though the bestern which caused the puralyan remains unaffected, we have obtained an important result, especially for the patient. There are many other internal complaints—for example, diseases of the heart and chronic diseases of the kidneys accompanied by souns dropsy in which we cannot remove the cause of the trouble, but we can remove the distressing symptoms produced by dropsy and thereby make the patient's sufferings bearable." The objection mixed by Binawanger and others that hypnotic treatment does not cure but only produces a temporary improvement can only influence a superficial observer. A man who has sequired his knowledge of therapeuties by the peaking of medicine, and who has kept his mental vision unphenued, knows how addoes disease is exceed by any of the so-called scientific remedies. Or does Blinswanger perhaps think that tocalment in an institution, as recommended by him for cases of hysteria, currs the disease? We know, on the contrary, that although in remberless cases tome distressing symptoms disappear during a stay in Isospital, they reaspear with renewed vigour directly the patients return to their old sunoundings. Still that is no reason for rejecting hospital treatment. If we were to reject the percedies which only act symptomatically, and such that merely relieve the symptoms of disease for a time, we should have to abandon the largest part of therapeutics.

An objection occasionally made (Brum) to hyprotic treatment or treatment by suggestion, is that in many cases cases apparently due to suggestion in reality occas spontaneously. In many cases this objection is justifiable, but it applies opinily to every other therapeutic method. I even believe that in the present day many really spontaneous cares are enumerously attributed to the suggestive action of drugs. To many people the word "suggestion" has became a catch-word that will explain anything. In this way suggestion is accredited not only with any spontaneous improvement in cases of functional disorder, each as neurachema, but also with instances of temperary improvement where the disease is organic and progressive. In addition to apostaneous recovery, we have also to deal with certain fluctuations which may occur in cases of both functional and organic disease. A neurantheric may be in a state of

excitement for weeks, than quieter for works; his sleep may be disturbed at nights, and thus he may recover spontaneously without any toesiment. Such fluxuations, which cometimes have a regular and periodic character, may very easily be mistaken for the suggestive action of any drug that has been exhibited. The same is also the case in incurable organic diseases in which the symptoms by an means invariably present a regulady progressive character; on the contrary, countial symptoms sometimes abute for a time, without the organic disease showing any tendency towards improvement or cure There are cases of tabes dossalls in which the ataxy scens to abate for a long time, but that does not justify the conclusion that the myanic disease is being cured. We observe the same sort of thing in chronic deformative rheussation of the jointsthe pains are at times less intense, but the swellings do not subside. It often occurs quite spontaneously and can easily be mistaken for the action of some remody, including the action of suggestion if that has been employed at the same time. It cannot be doubted that such enoneous combulors have often been drawn in medicine, -in electro-therapeurit, for instance. Paralysis of the presents of the eye, an early symptom of tabes dorsalis, as a sufe disappears spontaneously, and set how often the improvement is attributed to electric meanment? And it has been pointed out very justly that we must carefully guard against such sogroes of error when judging the therapeuse value of suggestion. But in spite of all this, no really objective investigator can doubt that there are numerous cases in which success is not due to any spontaneous improvement, but rather to the direct influence of hyposius or hypnotic suggestion. If we take the case of a man suffering from insomme, and his nightly sleep at all stages of the disease is improved by hypnotic suggestion, we cannot call that a more coincidence. No mitter how sceptical we may be, there is always an essential something in the result, that is justly attributable to hypnosis.

Another objection to the therapeutic use of hypnosis is that it cannot be generally applied because everybody is not hypnostiable. To which I may add that in many chies, even when a hypnosis is induced, it is not deep enough to be used thempeutically. This, of course, reduces the number of cause in which hypnosis provin niccountal; but, on the other hand, the first remains that hypnosis is practicable in many cases. We have only to consider the number of people who should,

from a medical point of view, take a prolonged rest and yet are prevented from an doing by posturitry or social reasons. Many people cannot afferd the sea soyage, long stay in a sunatoriate, healthy dwelling, etc., which would greatly improve their health.

In the early days a naive attempt was made to introduce an element of rotional feeling into the strangle against suggestive therspeaties and hypsotines. It was considered justifiable to speak ironically of "French professors of medicine," as Friedrich, for instance, did. A German author had previously made a chanyanistic protest that bypnotism originated in France, and it was frequently maintained that susceptibility to hypnosis was something French and could not possibly occur arrang Germans. This latter assumption was disproved long ago. But apart from this, Forel pointed out very properly that such talk is not permissible in scientific discussions. have often known a Feerick professor slow friendly up as Friedrich did on the question of hypnosis. The attempt to being other nations into ridicule by meribing to them quaint idiosynceasies is a very old mania. As far as we are here specially concerned, I need only point out that in Mesmer's time the Germans accused the French of making mesmensm the basis of nothing but the wildest swindles. In those days Mirabena answered such attacks by calling attention to the socalled "moon-doctor," the stocking-knitter Weissleder, who caused such a stir in Berlin from 1780 to 1781; "As if we Frenchesen had not received the notorious Meumer from the hands of the Germans, and the latter were not arolous to have then "moun-doctor," who was supposed to cure all diseases by the influence of that planet, forgotten" (Avé-Lallemant).

What therapeutic factors play a part in hypnotic freatment? Some think that hypnosis is in itself beneficial; this is the opinion of Beauma, Obersteiner, and Wetterstrand, who employed hypnosis in the treatment of epilepsy, hypnosis opilepsy and other states. Easer on Hirschiaf, Vogt, Brodmann and others also expensed the opinion that the rest afforded by hypnosis is carmive, because it strengthens the nervous system. Brodmann distinguishes three methods of employing hypnosis: (1) Prolonged sleep, (2) periodical sleep to prevent exhaustion or a pathologically incremed tendency to latigue, and (1) occasional sleep to ward off threatened

attacks or supposes such as may exist (convulsions, pain,

Another factor to be mentioned is the heightening of memory, to which Voge and Brodmann, but Brouer and Frend specially, have called attention. I shall return to this when I come to deal with the cathantic method recon-

mended by Brener and Frend.

But the most important point in connection with hypertic therapeutics is the direct action of suggestion, or, to use Vogt and Brodinann's words, the subject's hightened susceptibility to psychic influence. Both these authors pooles the latter expression because it is not only the subject's susceptibility to suggestion that is increased in hypnods, but to other psychotherapeutic agencies as well—for example, to prose or blane, to logical argument, emotional stimulation, therapeutic exercises, etc. Still, increased suggestibility is indoobtedly the most important factor, and we will new proceed to discuss it in a more detailed manner to that we may understand in true

therapentic significance.

Let in take as a simple example the case of a woman suffering from a functional headache. We wish to care the hardsche by engantion-i.e., by arousing in the subject the idea that the headache is gone. Spontaneous reflection would prevent this in most waking people, but in hypotosis it is relatively easy to induce, or suppress, sonsumous by means of suggestion. Consequently, the suggestion that the headarhe is gone will be more readily accepted in hypnosis, and the first result will be that the putient feels free from pula while in the hyparctic state. But the great point is to prevent the return of the pain after waking. Kither caternal post-hypnotic enggestion or auto-suggestion will do this. As we have already seen, suggestions can be made to persist post-hypotolically. It is, therefore, not carprising that we can do as much with the idea that the pain is gone after waking. Of course, the patient need not be conscious of this idea in the sense of remembering it; on the contrary, the less conscious the idea is, the surre-effect it will probably have. Autosupposition is the second plin. The patient, finding herself without pain in hypnosis, may convince berself that pain is not a necessary conjugance of her state, and this idea may under some circumstances be strong enough to present the neturn of the pain.

The more easily an idea can be established in a subject that

quicker a therapeutic centit can be induced. And the deeper the bypassin the more emily thempeutic suggestions can be established. But we must certainly agree with Voge that the prostence of suggestions that are momentarily incomful nords a subject of a different consister to that which is accountry for a suggestion only to prove temporarily ourcessful. Hence it often happens that the thempeutic result only amounts to a temporary disappearance of the symptoms of a disease without poeverning their return shortly after the patient On the other hand, there are cases in which the acceptance and continuance of a therapeutic suggestion is beninglet about by superficial hypnesis without any very strong suggestibility. It follows from this that superficial hyperours must be taken into consideration, quice apart from the fact that they often lead to deeper by moore. However, we may take it to be the rule that suggestibility, and also the permitence of

suggestions, increases with the depth of the hypnoxia.

Suggestion provides us with the key to suggestive therapetities. When the hymotised airboret does not accept the suggestion, or refuses it, which sometimes happens, it will fandly ever be possible to obtain a therapeutic result. In a andition to external suggestion we must certainly also take into account auto-suggestion on the patient's part, for its action does not merely take effect after the termination of the hypnesis in the manner described above. Even dering the lypnosis itself, auto-suggestion may be the essential influence that produces the result, although, of rourse, this nuto-suggruion proceeds indirectly from the external suggestion. A person who has himself hypnocised in the belief that the hypnocise will care him often suggests the cure himself, without any external suggestion during the hypnocis being really recessibly. Thave already mentioned pre-hypnotic suggestion p. 68) Since pre-hypnetic suggestion becomes nato-suggestion claring hypnesis, it plays an important part in thereparties in the manner just described, and the results obtained which are attribed to hypnosis as such-i.e., without suggestion, are often file to par hypnotic supportion. Similarly, enroboral liffuences are closely related to noto-suggestions. The patient's expectant attention, and in some cases also the apparent mystery attaching to the whole proceeding and the excitement which that cames may tend to support the influence of suzzestion.

We find on investigation that the number of diseases in which hypnetic treatment is indicated is very great. This is not meant to imply that hypnoris is a universal paracea. There are numerous diseases in which the employment of suggestion comes in question, but in which it is sometimes pecessary flux of all to ascertain by experiment whether a hypnosis can be induced and hypnotic auggestion thereby rendered possible. Ewald, who wanted to leave suggestive therapeaties to shepherd boys, likewise refused to concede the same mak to hypnotic treatment as to other methods, because it was impossible to establish definite indications for its use. Let us see how other therapeutic methods stand in this respect. When we find that the same disease can be influenced beneficially in one case by cold water, in another by warm, in one case by douches, in another by hip-baths, in this rank by the galvanie current, in that by the fundic, sometimes by static electricity and sometimes by electric light baths, then all these facts should make us somewhat more tolerant in our attitude to hypoetism. We know from experience that parients suffering from the same disease get relief by totally different methods of treatment. What we do not know is why a winn both is beneficial in one case and a cold one is another, why static electricity succeeds in one case and the galvante current in another, quite apart from the question whether these methods have only a mental action or not, or whether sportaneous improvement may not be mistaken for the effect of the remedy applied. Certainly these comiderations do not agree with the tary tales which many authors tell as about "exact indications," and which Ewald seems to have believed in when he med to place hypnotic incoment on so low a grade. Medicine consists to a great extent in the careful selection, by trial, of that treatment which seems most suited to each ease. This lay no means disparages the functions of the physician; at the most it militates against medicine's claim to being considered an "exact science." It is just because the indications are so often indefinite that the physician is necessary; it is for him to decide from his own observations whether the remedy employed is acting beneficially, and should therefore be persevered with, or not. It is the same with hypocois. We can put forward general indications for its use, but we cannot generate a core

Fas harber dentils see Armitche Robot, by Albert Modi; Stungart, 1900, p. 475 of eq.

In any particular case. Ewald overlooked the fact that there are rarely definite indications in internal diseases, as may be clearly seen by comparing various text-books, and from the numerous contradictory statements made by different doctors. He also overlooked the fact that the indications for hypeotic treatment are quite as clear as those for treatment by electricity, massage, drugs, and baths.

Before proceeding to discuss the general indications for hypotic mean most, I must say a few words on the alex conveyed by the term "hysteria." Unfortunately, layers authors—that among them Mental, of Buyers— have done much to observe be position through the very vagor meaning that arraches to "Ispectia." Bensemper admin in his great monograph on the subject, that my defining idea has get been countratted that would enable as to speopelise bystoria as a clinical cutty, a well-defined servous comphilat. In reality, the question as to what is mount by bystesia is seasidned from two totally different points of view in the present day, the theoretical and the clinical. "All morbid boddy changes examed by ideas are haversical." This is Michiga's conveyance of hysteris, and it is accepted by many other outbors. Enlerburg takes councially the error view, which also agrees to a certain outset with that faulty held by Charmet. There is justification for Mibbins's definition from the theoretical standpoint, and also from Himography not quite informal view that all hysterical model. phrometra are industably competed with fundingly distributed in the combral cortex, though Binewanger explicitly explains that he does not escent solely distarlances of mental usigns. No matter how well generaled these then stical definitions may be, we have to recken with the fact that a theoretically contrasted conception of a disease files not as a rule cover the clinical conception of the malady, noise introduction has led to a definite result -4.6., arrives the ullrical material has been sufficiently numbed and climited from the theoretical point of view. Unfortunately, we resent may that this has happened in the case of hystoria. The the conbuses of such theoretical definitions with causical tiless has led to south misunformating. It is not so long up that we in Greeney described bysicria cinerally in a discover of an extentially languaged nature, and then again as typified by the multiplicity and entablity of he symptoms. Certainly those has been a change in this request during the last ten to Litem years, and we no longer consider that the multiplicity and variability of spectures justify the diagnosis hysteria. The this by no meter implies a fining of the efficient picture of hysteria as reorgained makes with the theoretical definitions given above, and it may will happen that when several earliest write all hysician cards resear asserthing different from that mirmed by the others. Million tries to avoid this difficulty by pointing one that legsteres, he has sense of the word, may be anouspanied by synaptosis which do not belong to hysteria; he considers such symptoms way, the bysicrarial character and hyperital accutal wouldes-complications, and may symptoms of hysteria. From all of this it is early to one how great a difference there is between the clinical and the theoretical lites of hydronia.

Indeed, as already pointed out, the word hysteria in variously employed

in a clinical sense, and by using the turn in one sense or acother at pleasure recommend residents are determ which even many doctors full to recognize. We have seen that it may at one time almost asserted in Generally—it is up to an entest, in the present sky—to consider bysteria a ferritised discuss which has recognize and expitable apoptions—only one symptom, to moreover method producinating; from herstacker, new commutation pairs, now pairs in the side, and new weakhout in the logs, see. The patient is called "bysterical" as well as the apoptions. As sorth policies are assertines obtained and approximate, this word "hypotenical" has a connectant manifestation and approximate, this word "bysterical" has a connectant manifestation to a chart symptom of such hypoteria. Thus is existently an artists properties and could hypoteria, a chart symptom of such hypoteria. Thus is existently an artists properties and countries of the approximate action of the approximate are the main characteristics of hypoteria taken in this arms.

In smaller sense the word "hystermal" has quite a different meaning. It is used to describe morbid spreptons which have no enstantical basis and which are therefore merely "necessar"—a.g., headache, palacin the manifesterials meaning receives when the spreptom is satisfied producted. Now, if its merit a case the patient, at well as the symptomic is to be called "hysterical," we have two totally different meanings for the

dialral amosption of a "batterinal patient,"

These quiets have to be taken lets consideration when discussing the connection between hysteria and hypnomis. I have already (p. 29) spoken of the apparent connection between byteria and hypnomiability, desping to existence, and I based my negation on the elected entering theorem. But assess existing German intestigation—e.g., Hauchtoff, Helpach, Gampett, Vogt - have recently strengted to establish a close connection between hypothic and hypnomis, or at least a certain psychological sultainable. This would be quite agit from Militain's post of view, according to which both unites are equally influenced by ideas. But it is quite different if we accept the clinical contequion of bytesta, for that does not admit a close connection between hyptom and hypnothem, or, more particularly, the connection between hyptomiability and hyptom which let be semections assessed.

But it is thousanty to insint upon the encous mennings given to the term bysteria if we me to mertie a definite position to hyprodic and suggestive therapentics, at, indeed, to the whole of montal therapentics. If we more it independent and by the control of the control participated picture in personal them a remedy that allow the morbid phenomena in each cases is often considered of mixtor importance because the term bystesia, and in this sense, is too easily associated with the infeas of energeneous and simulation, and because, moreover, such hystolical symptoms are throughout halde to undergo vocation. Let us now lake the spound clinical morning of hysteria, and examine the case of a person suffering form a severe pala in a muscle—the hiceps, for example—but without say other symptom of hysteric, then if the patient is freel by suggestion from the pain the people who want to make out that hyperetic treatment in only beneficial in cases of hydresis at once estilates, "Yes see that was only section one of basinia.11 They confully supports the fact that the patient was not hypotrical in the first meaning of the word. This is the way in which the word "hosterins!" is juggled with to prove that only bysanta ray be influenced by hypnosis. Such methods can only tend to obscure

the whole question; and it is easy to me have much energially this is to occur, if at meeting the clinical mericing and at another Molana's defination

of hydrens is made the hads of the discussion.

How easily a continuous of these expensions may lead to manufaportating, in group filled by a letter orbits Charcot once addressed to Guttanas, in which he manufal that only hydron was be treated by hydron. But, as Name remarked, Charcot understood much more by "hydron." their German physicians did in those days. In contradiction to two German antenns, Oppowhere and Thomsen, Charcot distinctly declared that the versability of the appropriate is not the chief chiralterniae of hydrotic Hanco, necowing to Charcot, the indicatums for hyperone treatment me not so benefit in those authors amount from their anti-patiel German toolou of hydrotic. We shall see later on that Charcot understood much save by hyperia to other respecta; he was activited that hyperia was a concomitant of many organic diseases in which to proceed we denied by other analysis.

The most sortable muladies for hyperotic treatment are the neutrons—42, rervous complaints in which no anatomical cause is demonstrable. But, as pointed out, there must be so confusion with bysteria or neuroschemia. The nomenclature is containly comewhat arbitrary. Whether an occasional headache is described as bysterical, or nervous, or even functional, often depends more on the individuality of the physician than on the nature of the pain, and in the same way a patient seffering from imperative ideas may be described either as a neurasthenic or a psychopathic subject. Dubuis, for example, arbitrarily classic fied neurasthenia, hysteria, hystero neurasshenia, mild forms of hypochondria and metancholin, and, fimily, certain severe disturbances of mental equilibrium which border on imanity, under the heading psycho-neuronis or neurosisines. Considering the arbitrary way in which all such designations are used, I shall not place too much value on a scientific terminology; but to avoid my mininderstanding, I must maintain that cases of polysymptomatic hysteria are not invariably suitable for hyperotic resiring the capetrally when the symptoms vary very rapidly. This is obviously caused by the autosuggestibility of the patient, which in each cases counteracts the effect of the external suggestion. We can often remove such a laysterical symptom as pain in the head or the leg by suggestion, but mother symptom readily takes its place as the result of autosuggestion. On the other hand, it not infrequently happens, as Kraspelin has pointed out, that cases which come under the monographornatic conception of hysteria are often suitable for hypnotic treatment; this we shall see from the following

summarisation of the indications for such treatment now proceed to enumerate the most important states in which

hapmonic treatment has to be considered.

All kinds of poins that have no aconomical cance-agheadaches, stomach aches, ovaling pain. Rhoumatic pains, even with offusion in the joint, according to Block; but it is possible to confess with hysterical effection. Many forms of neuralgia, also, are influenced beneficially by hypnotic treatmem, Fore observed good results in a case of neuralga of traumatic origin.

All kinds of other sensations of nervous origin, as, for example, pruntus cutaneous nervosus, partesthesiae; nervous

ringing in the ear.

Nervous ocular disturbances (Foret, Mutterup, Chiltoff).

Various kinds of local spasms-e.g., blepharospasm (Ford) Ritzmann); suginistrus (Burbaud). All kinds of tics (Mrigand Feindel, Westerstrand, Renterghers, Féron, Viavianos) Paramypelonus (Scholz). Neglected cases of cherca (Damont-

pallier, Lerous); hemichosea (Fares).

Writer's examp, nervous treatures. Here, also, belong those affections which Benflon designates by the name Agreement grantigue, in which the patient is only unable to write when he thinks he is being watched. Legrain likewise lays weight on the mental excitement in writer's cramp, and recommends hypnotic suggestion as treatment.

Stammering (von Cornal, Ringser, Wetterstrand, Pauly). Lefevre traces the origin of stammering essentially to suggestion

caused by Institution.

Hysterical attacks of various kinds-for example, square,

convulsions.

Hysterical paralyses of the extremities; hysterical aphonia

and mution; astasia and abasis (Stembo).

Catalopsy (Vivani) Georges-Gaston Pau de St. Martin published in his medical description (Strassburg, 1866) a case in which catalogsy was successfully treated by hypnosis. He thought the improvement was due to rubbing the limbs during hypnosis, and maintained that the simultaneous use of hypnosis was necessary in his case, or opposition to an earlier publication by Paci, who also employed such rubbings successfully in catalogue ats.

Entereis necturns. Ringler reports that a little girl became subject to metumal incontinence of urine after other children had told her that she would wet the field because she had plucked a certain flower, the measiew ecowhot. The flower in question, Ramonadov acris, it is Switzerland commonly called place with. It is may to see that a disorder which can thus be caused by suggestion may most easily be cured by suggestion.

Any kind of disturbance of menstruction (Liebeath, Bernbeim, Forel, Wetterstrand, Bigney, Brunnberg, Journée, Marandon de Monthyel, Gascard). The most different kinds of disturbance of menstruction may be influenced by hypothesuggestion, amenomics as well as menorchagia and dynamics of these. It is weeth mentioning that Liebeauti was never able

to cause abortion by hypmotic suggestion.

Attacks of examples are thought by Le Meanit des Chemin to be influenced bearficially by hypoton. Reports as to the results obtained by the hypototic treatment of options vary, for are not favourable on the whole. A few observers. Wetterstand, for example—report cases of improvement from treatment by prolonged hypotosis; but Hilger is very reserved in his remarks, though he also found improvement is two cases. If have report soon a successful result that I could attribute to hyproxis as such with any degree of probability; certainly a microssful result in rassly simulated in many cases of epilepsy.

Starptesines, uneasy dreams, spentaneous sommanholism.
Gastro-intentinal disturbances of nervous origin; loss of appetite; hysterical vomiting (Freud) | vomiting of pregnancy (Chotesu, Anaforiew, Pobedinski); chronic consupation (Freed, Benaul, Schmidt, Farez, Delius). Forei has rightly pointed out that many cases of chronic constigation are beought about by there being no direct intervation current from the beain to the bowels. It is exactly in such cases that purgatives are not merely useless, but iniumous.

Hysterical pelyuris (Mathiez, Babinski, Dehove); nervous

autima (Brigelmann).

All kinds of neuroses of emotion—e.g., fear of blinking (Friedlander, Bechterew); four of being unable to pais water, dread of distribute, ageraphobin (Jong), and similar obsessions. To the obsessions belong also cases of neocphobia, in which the patient is descinated by the fear of disease. We know that in each cases the symptoms of the disease dreaded may be

A In the well-known French lesizon by Suchs-Villatte the shadeling in called planter-fit.

produced by auto-suggestion, as, for example, the phenomena of tabes, or attacks tike those of epilepsy. In some cases suggestion about the employed to remove the feeling of fear, in others to combut the symptoms produced by auto-suggestion. Julius Althaus specially recommends suggestion in susophobia, which includes many cases astribed to robes. Ch. Ph. Pisel thinks that there are cases of pseudo-rabbes which sometimes terminate fatally although the patients have never been bitten. In such cases, as well as in those of pseudo-rabbes in which the patients have been bitten, hypnosis with suggestion is indicated. Pinel has treated and cured a case of this kind by hypnotic suggestion.

Many authors advocate the use of hypnosis where there is a tendency to the misuse of atimulants and narcotics, especially in cases of chronic alcoholism (Fore), A. Voisin, Ladaur, Widner, Hayd Tuckey, Westerstrand, Corval, Knory, Nulson, Bushnell, Stegmann, Tokarski, Winzemsky, Omirky, Rybukot, Farez, A. Marnay). Corval pointed out that in alcoholism the mounous effects of abstinence can tometimes be suppressed by suggestion, and Bramwell thinks that he has obtained successful results in cases of dipagnania. Morphississ (Wetterstrand. Marot's nicotiniam, and similar drug minias have been treated by suggestions, sometimes successfully. Experience shows that better results are obtained in alcoholism than in morphisism, though in the latter the injurious effects of abstinence can also be suppressed by suggestion. Opinions differ whether a gradual or sudden disuse of the drug should be produced while the patient is undergoing hypnotic treatment. Bérillon and Tanzi are in favour of the gradual method. R. Bluewanger disputes the great efficacy which Wettentrand attributes to suggestion. Landgren, a Swedish physician, has hereupon published his own history; in consequence of acute mire dec to inflammation of the joints, he had become accustomed to the use of morphia. Wetterstrand succorded in caring hirawith remarkable sapidity, and Landgren states that the severe pairs which assuredly followed every attempt to discontinue morphia were remarkably shortened. Sigmund A. Aguistin. also reports that he was able in the same way to avoid the ujurious effects of abstistence in a case of morphisism.

Hypnotic suggestion is also recommended in affections of the second impulse, and has sometimes met with success. Most extrable for hypnotic suggestion are the various forms of sexual persension, including homosessuality, as well as monochism, sadium and tetrahism; and, further, perverse inclination towards the immature of the other sex. Kraft-Ebing, Scheenek-Noteing, Kraepelin, Alfred Fuchs, Ladame, Tattel, Naret, Renterghem, and Wetterstrand have observed good results in the most different forms of sexual persension. The treatment has also operationally proved successful in maintenlation.

Hint recommends bypactism in the seuroses of transmitten

and emotion.

Whether suggestion can be of any emential use in reurasthenia is a question that has often been raised, but the views expressed on it differ. Bernheim has seen no good results; but this is not the experience of Eeden. Many believe that neurasthenium are not so very suggestible, an opinion which is not shated by Bérillon, Mercray, Mayronkakis, and others. The successful sessits reported by Bérillon have been sharply

criticized by Schrenck-Notzing.

In reference to an experiment by Heim, in which suggestion was successfully used to ward off sea-sickness, Forel mentions a similar case. Other outhers also (Farez, Hamilton Osgood, and Econet) state that it is possible to prevent sea-tickness by suggestion, or to stop it at the onset. On theoretical grounds Bonnet thinks that it would only be possible to stop seasickness that has once really started if the patient were very highly suggestible; but from his own experience he admits the value of suggestion as a prophylactic. I believe, with Rosenbach, to whom we owe an admirable treatise on seasickness. that we have here to distinguish two causes, one of which is fear and excitement. In this respect a favourable influence can certainly be exerted by suggestion. But the second is made up of physical causes, the movement of the thip and of objects on it which are watched. That suggestion may sometimes render these physical influences inoperative appears to me conceieable; but one can well understand that it only rately increeds. I may been mention that as far back as 1703 a woman who had an unconquerable aversion to trusting herself affoat, once trossed the water in the somnambalic state while under the influence of so-called animal magnetism (Ferret).

Affections which can seasonly be called diseases may also yield to hypostic suggestion. In a case of David's, a lady for many years had been liable to burst into tears at every occurrence, however slight; this condition improved under hypostic

suggestion, and fire years later there had been to relapse. The dend of thurderstorms, which in some cases is almost pathological, can occasionally be combated by hypnotic meatment. Lloud Tuckey relates that he was consulted about a oung girl who had fallen in love with an unprincipled man and become engaged to him. Lloyd Tuckey was requested to being about a suppore between the lowers by means of hypnotic suggestion. At first he relised, but finally conscuted on hearing the details of the case. The girl was loperound osternibly for neuralpia, and proved to be a summaribulist. After the third sitting he began to suggest carmously that she would let herself be guided by her mother and would break of the connection. She gradually accorded. In a second case a young widow of thirty was nearly letting herself be mixed financially by another woman for whom she had a remartie siturdment. She was treated estensibly for insometa and a weakness for alcoholic drinks. In this case also Lloyd Tuckey succeeded in suppressing the perverse tendency by means of hypnotic suggestion,

I must here append a case that came to my knowledge in Berlin, in which a young girl had fallen in love with a poor gentleman. The services of a hypothicer were requisitioned to turn the love to hate. He succeeded, so I was told. Then the poor man who had been freed from the bonds of love suddenly inherited a fortune; so the hypothicer was again sort for, this time to revense the former process and turn the nate to love. I have had similar propositions made are in a whole series of such cases; but I are of opinion that on principle a physician should never do anything in hypothesis to which the putient has not given his assent while in the waking state, provided, of course, that the person in question is of sound

mind.

There are, besides, many cases in which suggestion has been used in a somewhat fantastical manner. A Remain physician once told me that he was able to influence the sea of an embryo by means of suggestion. But apart from such functial notions, it has also been proposed to coupley hyperois for practical purposes in many other cases which are not strictly medical. I shall return to this question later on when I come to discuss the use of hyperoision in education.

Many attempts have been made to meat mental diseases by hyperedis, but certainly without any great success. This is

partly because waise persons are often anything but good subacts for hypnosis (A. Voisin, Percy Smith, A. T. Myors), but is also due to the fact that such essential symptoms of mental disease as insune ideas, delasions of the senses, melancholic frame of mind, etc., are difficult to remove. It is easier to remove network symptoms, such as alterplessmen and hendache, although the mental malady as such continues (Forel, Robertson, Kraspelin). However, in the lighter forms of mental disease-eg, melancholia and mania, remarkable improvements have been obtained (Foret, Barrekhardt, A. Voitin, Segtas, Barot, Dufour, Frank). Hysterical mental disorders have alon been influenced trenchestly by suggestion (Majewska). Anglado is quite satisfied that hypnosis should be used in mental cases, but only for the purpose of treating bysterical disturbances; Storgis reports good results in cases of food iffests; A. Voisin, Repoud, and Locojano say they have seen good affects produced in cases of severe mental disorder. Tokarski rightly protests against the forcible hypnetization of children, crammals, and the imane as carried out by some, such as A. Voisin, Herrero, and Caryophilis.

Forei has recommended another special method for making use of hypnoxis in psychiamics; is consists in hypnoxising the attendants in asyluans so as to make them more careful with their patients. Walter Inhelder has collected and published Forei's experiences, from which it appears that after being treated by hypnoxis and suggestion the attendants centainly sleep peacefully, but wake at the slightest empirious noise made by a patient whom they are then quite able to protect from homeil, or powers injuring others. Inhelder thinks that in this way victims of melancholia who are dangerous to themselves are bester looked after. Such patients could not sleep if placed in the attendants' room on account of the noise, and to provide special attendants for them would cost too much; but by employing hypnoximal attendants both these difficulties.

can be got over.

Hypnotic treatment has also often been successfully used in cases of organic? disease. Liebeault and Bernheim, the saillest

I I have neclede among the organic distance some that are smallly distanced to necessary, because we are no yet measures of the realists of the materials between that produce them; but such analysis between much permuty by attenued to cent, for comple, in paralysis agines, field,

investigators, and others who have studied the therapestic value of hypnotic suggestion have demonstrated this. Tager on others-such as David, Grossmans, Stepaho, Lloyd Tuckey, also Bechterew and, quite recently, his pupil Pewnicki-have likewise emphasized the importance of hypnosis in the treatment of organic disease. Lloyd Tuckey observed the severe pains in a case of tabes doesslis disappear under treatment by hypnotic suggestion; Stembo modered pairs arising from cicatrices. Pewnoki saw the spontaneous pains decrease in a case of syringomyelia, but those caused by peripheral stimulation iscrease under the influence of hypnotic supportion. Bernheim saw an apoplocric paralysis rapidly improved by suggestion. The objection that the dispress was mistaken was contradicted by the autopsy when the patient died of disease of the lungs later on. Martin, also, has copressed a decided opinion against limiting hypnotic toutment to fusetional diseases. He has described among others, cases in which the veniting of pregnancy and pairs in the bips and thighs arising from the pressure of the gravid strrug were subdied by hypnosis. He also moreoded by means of hypnosis in making patients retain food and medicines which they otherwise invariably returned.

A superficial examination of the question wight very easily lead to the view that the employment of hypoetic suggestion in the treatment of organic disease is but the result of an uncritical over-estimate of the value of that method, became it is not the organic lesion that is cured by suggestion. Such a coreclasion would be altogether emotions. If we believe that Frankel's therapeutic exceeds have a beneficial effect on the symptoms of takes domails, then there is no reason to content the efficacy of other psycho-therapeutic agencies in the tentiment of organic disease. For Frankel's method is a mental sensedy; it is an attempt to restore voluntary co-ordination of coetain movements by making special uses of the sense of oght. So that even if we admit the efficacy of this sensedy, we are not bound to assume that the morbid matterical changes in the spenal could not done away with by it. Socilius prointed out

attimp, acide chown, etc. Of course, some organic change is the lasts of every neutron. Self-we are justified in reading creates entertime, as however, paralysis agitaes and hyperin. If we take two consideration the irrepresent course of the discuss and the immutability of its shief symptome, then the organic holion in policy must be of a much more stable character than is the man in hyperin.

long ago that the part of the brain injured in apoplexy is not restored by electricity; nevertheless the treatment of apoplery by electricity is considered a scientific method. In the same way perchadherapeutic messures are often effective in cases of organic disease, without the organic lesion being thereby cured. This view does not lead us into the sealms of the miraculom; on the contrary, it embles us to understand the mode of action of such remedies, even if the explanations given do differ somewhat. They all depend upon the following free, established by cornect observation. In succe organic districtes, the functional distordance, which we usually consider the symptom of the organic disease, extends much further than the direct influence of the organic lesion justifies. In the following considerations, an endeavour will be made to explain this fact from the theoretical point of view; they do not refer exclusively to hygnore and reggestion, but to psycho-therapeuties in general as well. To persont any artificial disconnection of subjects that belong together, and at the same time to avoid repetitions I should otherwise have to make in the next chapter, I shall discuss this question with reference to psycho-

therapentics in general.

In a whole series of enes, Bernheim has watched the influmee of hypnotic suggestion on the symptoms of organic disease, and thinks that in many organic diseases the functotal disturbance lasts longer than the regarde letten, and that the functional distributions are sometimes much more expensive than the organic lexion justifies even during its presence. In both cases it is possible to obtain improvement by means of psychotherapeutic influence, also when the disease is organic. Let us take a case in which the functional disturbance lasts longer than the organic change. mustic has been injured it may happen that the pain lasts after the anatomical results of the injury-for example, extraexeation of 160od, inflammation-have passed away. We can understand that this after effect of the cured organic lesion can be done away with by psycho-tierapentics. Bernheim mentions apoplexy, in which the functional disturbance is far more extensive than the lesion. He thinks that the lesion acts on the adjacent parts like "shock," setting up functional disturbance. We can quite understand the henefit derived from mental treatment in this case also. Indeed, psychothesapersis sometimes satisfies the realizable world at least in

the first case, in which the functional disturbance lasted longer than the organic lesion, and in the second case (apoplessy) is

was indicated as symptomatic treatment.

From Charcet's neuro-pathelogical standpoint, the successes obtained in cases of organic disease require a different explana-tion. As already mentioned, Charcot's conception of hysteria was totally different to that which originally obtained, especially in Germany. In particular, he held the opinion that hysteria supervenes in many organic discusor, the latter often being the exciting cause of the former. But he thought that in such cases we should make a strict distinction between the symptoms of the organic disease and those of the accompanying hysteria. According to Charcot the local againthesia met with in cases of lead-passuring is often improperly described as a symptom of the intoxication, whereas it is really a symptom of the accompanying hysteria. Smillarly, he thought that the tremors observed in mercurial paisoning should in most cases he considered symptometic of the accompanying hysteria and not a phenomenon of the poisoning. In common with his pupils and many other investigators, Charcon considered bysteria an after effect of many infectious diseases - typhoid, for example. His pupil, Giller de la Tourette, erates shat unlaria may being about a recurrency of hysteria, which then takes an intermittent character. Clarect also thought he could detect the extining cause of Insteels in many nervous diseases. The symptoms of organic nervous disease and of bystem may become associated in many ways, partly because organic nervous dismae is an exening cause of hysteria, and partly because the two sometimes appear simultaneously without there being any causal connection between them. But it is often very difficult to decide in any particular case which symptom should be meribed to the hystern and which to the organic disease. Thus according to Charcot bystems and multiple selenses are not infrequently observed together. Now, the intentional tremor observed in both diseases is very much the same; hence it is difficult to decide in the case of a person to afflicted whether the tremor is of hysterical or of orginic nature. The way in which we conceive psycho-therapeutics to act in cases of organic disease is in accord with this theory of organic disease combined with bystem. The patient is reflexed of the hysteria, but not of any symptom of the organic divease itself.

We can see that there is a difference between the theoretical siews of Churcot and those of Bembeim. But I shall not discuss that question any further, as it would practically only lead to a contention about words. Considering the difficulties in the way of differential diagnosis, and the condict of opinion as to hyderia, the spection, whether a symptom that has been relieved by hyperetic suggestion was releasible to the organic disease as to the accompanying hyderia, could hardly be made the basis of a profitable discussion. As far as the practical value of psychocherapeunis in the treatment of organic disease is concerned, such a discussion would be meaningless.

A few further considerations will serve to show the importance of psychotherapeutics in organic disease, but I shall not discuss any further the question whether hysteria or something quite different is present, because the exact meaning that should attach to the term "bysteria" is still a matter of dispute. In many organic diseases a functional distretunce may supervene, provided the disturbance caused by the organic disease be augmented by auto-suggestion. Paralysis agitars is a case in point. It often happens that patients suffering from palsy are unable to walk properly, or fall when they attempt to get about. One fall suffices to make the patient feel even races insecure, and thus comiderably diminishes his power of licemetion. We can easily understand how these totables may be lessened by suggestion or other therapeutic measures without the organic disease being done away with. Again, let m take a case of polyarthritis deformant in which the knee-joint is affected as well as others. Motion is the joint is essentially inhibited both by anatomical changes in the cont and by pain. In addition to this there is the fear of the pair, which increases the functional impairment of the joint even when there is no real pain present. In such a case autosuggestion may make certain movements impossible, thereby residering the functional desangement persistent even when there is neither a mechanical obstacls nor a sense of pain. This enables us to understand how such patients come to stand up when momentarily excited; an outbreak of fire suffices to make them jump up and run out. But when peacefully seated and undisturbed, the patient cannot voluntarily rice from his chair. That disturbances which are not the direct cuteoms of the organic lesion should be done away with by psychic remedies is quite comprehensible.

How readily mentally determined functional pains follow organic leatons is shown by the fact that people who have had a limb amputated often feel exactly the same paint after, as before, the ablation. Attempts have been made to refer this to irritation of the nerve-strapp in the cicatric. This explanstion may apply in some cases, but there is much to be said against it; indeed, it is much more probable that in many cases the original peripheral pain is reproduced centrally, This view is supported by the fact that the patient experiences the same pain, at the same spot, as before the amparation, which can be better explained by central reproduction than by the physical stimulation of the peripheral nerves. Of coune the pain experienced by the subject in such 2 case could be explained by the law of the phenipheral ramification of the nerves; but that would not explain why the patient feels exactly the same pain in exactly the same spot as before the operation. Let us take as an example the case of a person suffering hom a painful ofcer on the log. The patient feels severe pains at a particular spot on the log; he also feels that the pain is of the particular kind caused by a peripheral affection. The local affection is then removed by amputation, and yet long after the operation, often years after, the patient experiences a sentation of pain in exactly the same way that he did before. Does imitation of the nerve-stump at the place where the amputation was performed explain this? Certainly the patient shinks he teels the pain at the same spot as before, and not in his bod or his toos; but that is better explained by central reproduction of the pain than by peripheral stimulation; and this view is quite in accord with many other psychological experiences, for mental processes uninarily set up by peopheral trimulation acquire a tendency to be reproduced centrally.

The efficacy of psycho-therapeutic measures in the treatment of organic disease is further rendered intelligible by the fact that organic troubles are more acutely felt by neurotic subjects than by those whose nervous system is in a healthy state. Maximilian Stemberg cites tooth-artie as an example "of the connection between the sufferings caused by a disease and the oritability of the control nervous system." If a person whose nervous are in a healthy condition forgets his toothache at the dentite's door, it goes to show that toothache in cases of securion is particularly dependent on the general state of the subject's health. Stemberg advances caries as an example of

this, because it is often connected with hysterical tooth-ache and with tooth ache as observed during pregnancy. In these cases the general neurosis causes the pair to be felt more scatchy than the rantes justifies. The neurosis, and not any change in the rimulation, is to blame. Consequently all kinds of suggestive remedies—mouth-washes, hypnosis, six—are effective in such cases, though of course local treatment should

not be neglected.

But there are further considerations that elucidate the inflaence of mental processes on the symptoms of organic diseases. We know that pain often disappears, or becomes less appreciable, when the putient's attention is diserted from it. We know, funlies, that hypnotic suggestion can render a subject insendtive to the prick of a pin; indeed, minor surgical operations can be carried out paintently in this way, although there certainly must be a certain amount of organic britation which would otherwise cause pain. We must remember that a peripheral stimulus above does not suffice to let up a sensation of pain; that only happens when central processes are set going by the peripheral stimules. We know, further, that central processes mutually influence each other; the semution of pain can be just as easily prevented by hypnotic or non-hypnotic suggestion as by diverting the subject's attention. These processes which have been observed after operations may also be expected to take place in cases of organic disease; and this may cometimes contain the symptomatic improvement which follows hypnotic suggestion and other psychotherapeutic remedies in spite of the persistence of the organic disease.

Finally, many successful results can be captained by the fact that central processes (ideas, feelings, emotions) have a peripheral effect; the idea of a tasty dish causes a flow of salva, shame leads to literating, and leight to pallor; fear often has a great influence on peristable—we know that diambou is a frequent consequence of dread and accept. It is sometimes epidemic among soldiers when they have to face fire. These things being so, we can undentand that psychotherapeatic processes at least produce a change in peripheral functions.

The attempts that have hitherto been made to explain these successes depend on the improvement that has resulted in many organic diseases from psycho-thempeutic measures, and must be kept quite distinct from the view that mental influence produces an anatomical change in a diseased organ directly.

I certainly do not deny that mental procesus may set up organic charge; in fact, I wouldly admit it. The facial expression of a subject mentioned by me on page 114 is a case in point. We further knew that chronic emotions affect both personality and physiogeoms grief and care after the facul expression. Dr. Weiss, also, holds that we should not certly descriss the possibility of hypnosis producing organic changes, and supports his view by referring to insuances of the hair turning white from fright, and also to a case in which he saw a woman seffer from herpes labells as the route of a middle shock. Many other instances could be adduced to bear our the fact that such effects arise from mental influence. We accept mental drain, worry, and care as causes of mental disease; yet muntal diseases are organic diseases of the brain, although we are sellow able to establish the nature of the organic change. I may further memore those cases in which a blitter, or some other organic change, is produced by the augmention that an epispastic has been applied. Het in spite of all those objections raised by sceptics, I do not deny the influence of mental processes on the anatomical structure of our organs. Unfortunately, we are unable to make any practical use of this influence, because it has not yet been proved that we can arbitrarily bring about those anatomical charges that are necessary to ensure the cure of togastic disease.

A totally different view has certainly been expressed on this sablect. Many earnest investigators-such as Delbood, Build, and Hack Tuke-have expressed the opinion that organic diseases may be improved by suggestion, and they have given cases in support of their view. Recent investigators, especially Bernheim, have kept alouf from this view. I only mersion this became Enswarger and Sociematter seistakenty represent Bernheim as having maintained that the original organic injury a denc away with by suggestion. Uncritical investigators have certainly reported many care of organic affections by suggestion. Among such stones may be mentioned the supposed removal of warts by sympathetic remedies. Whether in such cases the organic affection is cuted by mental infuence or the warts disappear sportaneously appears to be a matter of detail. But we have much more right to doubt the professed curs of incurable diseases as related by charlatant. All depends upon the question whether the discuss really

evoted or not. When quarks announce the miraculous case of "essect, takes donain," and similar affections by such methods as animal magnetism, we are compelled to ask how was the diagnosis serived at? Quarks often ascent that the diagnosis was made by a scientific doctor. But that is no proof that each a diagnosis was ever made. Statements made by pinious are anything but conclusive on this point; such people seem to take a delight in representing that they had been given up by some doctor. One thing is certain it has never born proved that psychic methods bring about

those changes necessary to cure an organic lesion.

Even if we cannot engender a trust in the psycho-therapeutic treatment of organic disease, it would nevertheless be a great mistake to ignore the value of certain mental methods. To natively the institute orasials, psycho-therapeuris must be taken into comideration in those cases in which mental influence has been a contributory cause. This does not merely refer to functional diseases such as neutristhesia, but also to organic affections. The injuriousness of mental influence in cases of progressive paralysis is recognized even by those who consider syphilis the prime came of the disease. C. Wellesberg includes mental strain among the causes of paralysis; also the exhaustion that is caused by the restlessness of modern lifecompetition, increased personal responsibility, and all the worries and deceptions of business undertakings. Kraspelin thinks that the attendants in lumitic asylums are often injured. by their employment which tends to render them subject to degenerative psychoses. The same author also thinks that "emotional estress" has its significance. As a matter of fact, if we are to satisfy the fulliante countils when treating progressive paralysis we must must on absolute mental rest from the moment premoninory symptoms of the disease appear. not marely because the diseased organ requires rest, but because mental influences may have belied to came the finesse. As already pounted out, psycho-therapeusis is specially indicated for treating the symptoms of organic disease. But we have further to consider how such diseases react on the parasir's mental life. We must endeavour to minimize the feeling of ill health-for example, by recommending a tabetic patient to orgage in some congenial occupation, not merely because that is desirable from a domestic point of view. And mental treatment is all the more indicated when we have to

deal with such concomitant troubles as sleeplessness, loss of

appetite, and an unhappy frame of mind.

Having thus thoroughly discussed the indications for hyperotic treatment, I must now add a few words on the course infications. In some cases the treatment may be cornaindicated if auto-suggestion produces emplement results which cannot be counteracted, and which outweigh the benefits to by expected from hypnosis. Fear of hypnosis often prevents hypnosis, or pure it off until the fear has sufferded. As we have alonely seen, a patient who is afmid of being byprotund often exhibits impleasant symptoms. In the same way care should be exercised when hypothing excited or weak-minded patients. and we should even doubt when the subject is hysterical and has a tendency to morbid auto-augustion. Of course I do not profess that any unimportant disturbance of auto-suggestive origin should prevent us from employing hypnosis. On the contrary, the good results which we expect from hypnosis must be conquent with the possible evils of anto-seggestion, and a definite conclusion thereby arrived at in the manner customary in medical practice. It should be orident from what I have already said, that each contratory as a feeling of vertigo exceed by auto reggestion, or an occasional attack of hysteria, should not lend us to abitain from hypnotic treatment. But it is only the seedical specialist who can appreciate the significance of such concomitant symptoms and draw a correct conclasion from them. The fact that medical men have described hypnotic treatment as harmless does not justify its use by quacks. The harmlessness of hypnoxis depends on the sperial knowledge and experience of the physician-his capacity for appreciating the significance of auto-suggestions.

I shall now proceed to give cases in which I have observed

hypnotic treatment prove of me.

Class a Cophalalgia and cardialgia. Mrs. X., art. go; has mother and sactor often safer from breefactor; another touside formeld, and arm attacks of strong in the stranger interest according to the stronger. She is still to have seening blood user. The winder regions of the stronger to palabel on premare, but there are no typically amortive spots on the bend. Certainly according to marks are most present on the bend. Certainly according to greater cycles after the short to premate on both sides of the band, has not to a greater extent them is met such as according to the short, they are accompanied by assume, though coming is rare. The attacks of headable do not seem to synthesis with the primar in the stomach. The bend is seddent entirely free from pain, and the primar has no almost constant feeling of appreciate to the hand.

For a long time the was treated by drags and also by static electricity, for without effect. The good effects of hypocole treatment were seen appropriate readerately deep by seem reserved the feeling of pressure, and post-symptotic suggestion imprecised the attacks of pale. Even when we strack that name it was possible to suppress it almost momentarily by mores of supposition. I have followed this case for entry years, and although it has occasionally been recensive to repeat the hypotals every two or these months the transcribed benefit bas always been entraced tours. The patient has not had a servery headashe for three yours, and all attacks of pair in the stomach say untily out short by suggestion.

Class A .- Network rough. Min X, et. 23 Imperiored account and somewhat hysterical. Has suffered from nervous cough for the last eight mention I could hardly see her for a queries of a minute without her coughing. The coughs are short, sharp, and regular in sequence. The patient had been neuted with many predical proparations. Neither local treatment of the laryes, not cold subling, any the yack applied to the body produced any effect. A water-case at Lippeprings and elementy were also naffectual. But after a few days of hypractic terrainment the cough began to

with and had quite disappeared at the end of a formight.

The patient has been two pears without treatment, and the anaph has not

respected.

Case y .- Attacks of hysteria. X., a labourer, of, 251 has safered from convenience for seven years. According to his own account he partially loses conocioniness during the attacks, but not completely ; he has a seminotion of what is going on around him. He does not hite his targue, which is the from sears. He may reviously injured one of his eyes during an ettick. When the attacks are on he lies flit on his back and his whole body is convelled; the attacks has from those to ten minutes, and generally terrer time a week. Drugs and other sunrolles have proved sicless. The patient can be thrown into deep hypnosis; during the second stage he has serie delaisms, and those is lost of memory on waking. He has not liad an attack since the fest day of hypottic toyatment, and was still bee when I may him two years later.

Case g .- Teremolic perspingia. X., a girl agod ton. Fell downstains sis weeks age, and is said to have him narries was los a quarter of an hour. Shortly afterwards size was found to have lost her speech; a stay later spanned is more market of a slight entury were absenced, charly of the tomput and lags, the hards being sanflected. Ten strye after the full there was complete passigns of both logs, and the shild doubled up directly the most to mand. Hypermia was then tried, and although only the first stage was reached the child may able to well in a quarter of an hour, and is still free

Core g. Hesterical appears. X., et. 17, is a member of a service. family and has selfered from sphoras for door murchs. He cannot speak out load, only is a winger. The history of the case positions catanik of the largue, but exemination determines the disposals by tenical spheries. The parient could be hyperstand also the first steps, and although simple suggestion proved indicated good results were obtained by combining supposition with ferred supitation. Four days later the patient was able to activities simple splighter distantly, and als drys later his speech could be proposed power. There was an recurrence for a year, and each then the trouble visited to hyphotic treatment.

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As far as hyperical aphonia is concerned I could receive many cases in

which four of voice has been coved by by middle suggesting.

Caty 6.- Nervous sickness. The patient, a pale young girl aged 18, and a member of a healthy family, has sufficial occurrently from headards. Her chief treatile is sickness, which becamely assure an other she had eater starting. Revising and contains often occur within a minute of augilouing even a deep of water. When the came under treatment the treatde had listed under their a year. The patient was very work our flows, and it was almost impossible to stop the vomiting without amornios. All kinds of tigaturest were triol, and it was constants found provide to apprece, or at least delay, the usual sickness by taking comparie menuros to distract the petient's effection when the had had a manual to est. Negoribeless it was not often possible to director the potient's attention sufficiently, which above leav such the patient's mental condition affected the ecosing. I then total hypotic suggestion and found that the patient could be unity hypnotized to a deep stage. She was very much cahested by the few beymosis, but this discounted desappeared at the hyperess was persecuted with, and the was finally able to sat and daink with only occasional attacks of marking. Part-bypoolic suggestion gradually made this improvement perceptible in the patient's waking life, and in fourteen days time she was able to take that without comiting. There has been no alternion in two condition for a year and a half.

Case y. - Sommerchation. This patient, 45 years of age, is the son of a violent father and an entirette mother. It was noticed that from his child hood he talked about in his sirey, and sometimes got my and wandered about his biologou, but he had no recollection of these occurrences. His parents were affaild to spent to him when he was writing in his sleep, became of the popular nesion that it would be dangerous to do so. His as an ambulism sometimes led him being the supper story in which his bedroom was situited to his grandpotents' upartment on the ground foot. This occurred on an average care a futright. No consultions were ever abayerd, and I think this one must be construed one of somewhaters. although a nice derivation from mentally produced epilepsy was not quite possible. The suggestibility of the patient was very marked through hoperwis, and the attacks of commandulum were easily appeared. These have been no attacks for eight worths. The patient often talks at night; had he never gets out of his bod, although he has not been bypostized in

HAVE BEOMETER.

Case & -Nancolapsy. The persons is eighteen pears of age and solars from stratch of somewhere. His father was also similarly affacted. The patient has observed that close residing makes him spiritly time and the patient has basely at a second. The recover absent duly, so that he has basely the compage is seed. The trackle has lartly for some results, and electric treatment has proved assumptional. But hypometic treatment has not only stopped the confuncy to fall indeep when reading, but has also suppressed the tied feeling affective aspectanced. I was able to below this improvement long other the pottern has county to be masted.

Case g.—Asshma of mental engin. Mrs. K., 28, 28; formerly a heavy drivine; has sufficied from attacks of dyspaces for eight years, repectally in the advances. The attacks large after here is a correct that the patient has been compelled to get up and open doors and windows to as to get bother. The attacks are almost of daily nonatrents. The image are healthy; but the Entimitation is not quite pure but assemble lenken. Otherwise there is nothing allowered on brunched ratumb and no employeem. The potent was subjected to all least of hydro-therapearis treatment; element reatment was employed; become was constand and given local treatment, but all in too purpose. The patient was then maned hyperatically; the first experiment produced the arcount singe of hyperate and almost complete annufaction. From the first day them was no attack of atthesis. The patient was fast of all hyperatical stelly first a first-right, then every second day, and finally once a mouth. In the case it was possible to do without hyperatic as the attacks did not every, and after many part of observation.

I um antitated that the case is complete. Case ro. - Chronic contriguation. Mos. X., at. 35, a somewhat computers number of a beatify limity; suffered from chlorosis when she was filteen yours of age, but had not apparently suffered from any other months. At cament the is occasionally ironfold with a sense of combiners in the best but no direct guing also some minor wonbles such as laustude and bunctness of the limbs. As a rule site, only has a motion every third or learth eny, and then it is very hard. She has talon. Carlehad mits in increasing doses, also sides pifts, and other melt medicaments. She was abliged to take such large does that the finally agreed to undergo hypotic treatment, especially as weeks of manage had done her an good. At the first affreys she fell late deep hypnosis, and a copious execution on the following morning was recombilly suggested. She was bypartited up ben amounted occasions, and then at longer intervals, and when I had new her two yours after she had stopped the treatment, her runtime were normala replied evacuation every morning without the use of drugs.

Cate 17. - Emergia meterna. The patient is a well-developed boy aged see; has always sufficed been emergia nectures, and went the best entity away night. Electrosity, frugs, and the month have no effect. At the second small the boy was despity hyperstand. Post byposine apprive hallocitement were induced, and the boy was cedered to which up as right directly be felt that he must pass water. The time for waking was guidantly postposed by suggradient until the memory. Suggestion was gradually prospected by suggestion until the memory. Suggestion was five sea frequently amployed, and now after the number force is an trace

of entrois notherns.

Case v2.—Traction entities on nervous. X., of, 42, but inflered from nervous locking of the skin for feat years. The steining is presently so some that the patient has to get up at eight and accords himself till be bloods, or else to get his wife to rath him down with a semblating brain. It communicates of the last of sleep—nervous felding is always worse at night—the patient is very our down and posely. On examination I find this patie and thin. His has tried antisyrin and solar drugs, she referredly and boths, but all is vise. One work of bypenin interment not only let up an improvement in a unlarly of prairs' standing, but every par a single is meat of the symptoms. The patient could again sleep quictly, although the licking assessment present more a week but in a less interest form. The patient was considered who it is a less interest form. The patient was considered and which I are the standard of which has discovered as a constant of the tracket form of which has discovered been not converses of the tracket, all traces of which has discovered.

Care 15.—Channis chiusta. The patient, a girt aged 15, had a bad attack of channa eight energies upt. See weeks later the apount were last towers, though after considerable at the time also came to me for tourissent. Drugs and electricity had preved surbes, so hypocric treatment was decided on, with the result that the patient who had believe been madde to had a gint or a cup or do any manual labour, was enabled or those days' time to take up her humanish states. A first girt later every inter al spain had disopported.

I have often news neglected cases of chores suproved by suggestion; but I have never observed any noticeable improvement in soute cases even when the subjects have been specially susceptible to deep hypnosis.

Case e.g.—Termine surrecess. X., a numbranic, 56 years of age, belongs to a family with horrefriny trink; is of a very excellable temperament, and has nations neumathenic travibles. He is specially afflicted with termining of the hands, which takes the form of travil and replical movement and is particularly increasement because a standy hand in accounty in his besiness. The trendding is very marked when he similarly bit hands out, and lecromes when he is suggest on the work. After six attempts deep hyperosis followed by amorais was induced, and after the Lans always alte to suppose the tremer which his not received after the large of two and

a half years.

Gas 2g.—Agoraphidia. The patient is 35 years old. His modes, and slice his benthers and eleters, suffer those migrature. From his twenty sected year he has always left disconsider when crossing an open space. This increased from year to pear satisfile is now smalle to gross in open space. After a few steps be is attacked with hembling and vertige; his sight becomes thereof, he purquies and is obliged to estate his steps. As is usually the case with such patients, be is able to cross a squee if necessipated even by a chief, and he is also able to gain the other side of the square by taking a coundabout way, such as browning the other side of the aquare by taking a coundabout way, such as browning the course between the acquare by taking a coundabout way, not as browning the course of the house. He could be no marked of treatment—water cure or other—has been of any use. Hypoxic suggestion brought about sourced improvement after these strings. The patient was at once able to cross a small upon spoon without assistance. I have altered that the case cross a large opens without assistance. I have altered that the case cross a large opens without assistance. I have altered that the improvement has been marchined for several year.

that it. Impensive ideas. The patient, Mrs. X., is 42 years of age, and a member of a manufact measurable family. Her relatives are all described as being necrous. Errors years age size sufficient from severe impulsive ideas which fasted for those years. Them sixe years to me for instrument the had been saffering in the same way for more than a year. Sixe was overwhelmed by the idea that six was suffering from an instrumible factor, and was very match inpension. Six was offering from an instrumible factor, and was very match inputsion. Six was offering from an instrumible factor, and was very match inputsion. Six was offering from an instrumible factor, and was very match inputsion. Six complianced that for illustration to intensity in her celebron. Six complianced that six had but slit intenset in painting, asters, the thatler, poetry and everything that had formerly intersections. But hymotic recurrent specific produced good cerain. Deep hyposis was produced at the final atting, and was followed by post-dyposite megalize halforements. For the first there were the intings were

reported daily; the empatitive ideas were always much weater directly abstractly, and the patient's condition was improved. After about from weaks the patient's condition was respect to present that the treatment was always of. After the lapse of a joint these has been an econvenix of the Sanary transless.

Carr sp.—Fear of binking. The patient, at, 25, had suffered from an automatelibile tendency to block since he was filtern. It accounts more inequality when he may with other people than when alime. This incomments had continued to get waste. As is would be such cause the binking generally occurred when it was most thousied. The patient was in official suppley, and the attacks were must likely in some as when he was in the presence of his topomore, which rendered his position most possible. He tried latting his honel gives solely to render the blocking less attactable, and sho wereas other artisees, such as terning his free nearly to concern in reduces. Thirst was in deepow and begged no action to be had total at his his of remedies. I found in easy to induce these his hand of a Suggestion was at first employed frequently, and then at longer intervals. The old fear of blocking geninally unbailed, and to now very actions thanks, and ever then only at times when it hardly causes him any inconvenience.

Can of .— Inharia of mental origin X., at F5, at a generally nearous disposition, but free from any organic channer, had long expensioned distinsty in pushing water. He found it difficult to make water enhantedly even when his labeller was full. The treable perturbinely effected him paths conveniences. Even when alone he could only point water after capeaing bimed for some time. The treable, which had lated many years, was all the more primited in the lab the dealer to make water for round not to effect a case, and when I saw him some months later there had been to restrictive of the treable.

I have already mentioned that great improvement can be obtained in the symptoms of organic disease, and I now append a few cases.

Cree rg.—Multiple reference Mrs. X., or. bg. had her peace inflored from increasing freemen, which only occurred when the interspeed to carry out some referency, which could not be the reason of quite fore, the treasure were particularly noticeable in the arms and togs. More sent of the lower limbs obviously weakened; gult magazine and species in character. Her speech was connect, there was evident springman, and the assurtance reference from the carry great has easily demonstrated. Her this is particular being from most very great has easily demonstrated. By packet treasures was directed microtially to the treasure and touch. Bypacket treasures was directed microtially to the treasure in the same, and to the minuty modules. There was very considerable improvement in the former directly after the first quillentian of boyantie suggestion. This could not be considered in a citizental polarizations; for although the persons had previously been analyte to lift a glate or a spoor to have they, the re-acquired the power of an design to lift a glate or a spoor to have they, the re-acquired the power of an design

ter at ignet some pensisterable time, as a direct must of suggestion. These was also a socientific decrease of the ariomy tensitie. When the economy top notice suggestion had been made, the parism was eventiably able to pass water conferribly, and the improvement assummer interface for dwylog, occasionally even longer—as such as those works. Also that it became accounty to aspect the suggestion. Of course a case was necked and the observable of the course of the progressive nature of

the elecate were evident after a time.

Case etc.—Deformante polyminales themselve. The patient, aged so, but sufficed from severe articular shammation for eight years. These were large form severe articular shammation for eight years. These were large form productions of most of the affected poles very blanted, to quate impossible. The pasts were independentiable, making it impossible for the patient to sleep at night or rest during the day; he therefore desired hyperote trustment to as to shall asted from some of his patien. It was found that deep hyperote could be induced and the patient through almost rewritably related from pain for a negation than. The pointer's shally in north guidality returned, and he was finally able to wait a little, even to go downtain. The monument lasted four works, and when I like the patient calcorporately I found that the represented had been maintained, every los occurrental arracks of units which always specify giver way is augustation. As a role the loss of pairs was so marked after negation that these could be no dealer as to in cause.

Of course finite that he no question of tuning ensures and cartingnous substraction, her is a larger possible to modify a whole series of murial

symptom is much since in the above.

Among other diseases accompanied by organic injury, I have seen a very painful examin of the ear, in a child of eight, made completely painfess by post-hypnotic suggestion. I observed this case in the company of my friend and colleague Priodemina, then of Kopenick but now of Berlin, whom I have to thank for a number of interesting superiores in hypnotism. The child in question had so painful an account that he could not bear the alignost south. An order given in his first hypnosis had such as effect that he could alterwards under even strong pressure on the affected spec.

We have now to consider how hypnotic therapeutics can best be installed as a practical method of treatment, and this at once brings up the question: To whom shall hypnotic treatment be ostrusted? There can be but one asswers a solely to the scientificulty trained medical man. He alone is in a position to establish a diagnosis and thereby determine the indications self-contra-indications in any case; he must watch the affect of the treatment on the patient and decide whether or not the hypnoric method should be continued. He alone can docide on diagnostic grounds whether hypnosis should be supolemented by other methods of treatment or be stopped. I do not deny that there are layourn who are well acquainted with the technique of hypnosis, perhaps even better so than the average medical man. Delborof was one of them; but we need not take such exceptional cases into account when discussing the practice of hyperosis. But apart from that, encle an isvestigator, even if possessed of the requisite knowledge of the technique of hypnosis, would be mable to determine what was indicated by the diagnosis in any particular case; and it is even more important to oppose the therapeutic use of hypnosis by ignorant. laymen, such as charlatam. For this reason Wards has entered a protest against Lowenfeld's proposal that attendants should at times be allowed to hypnotize patients for the purpose of allowating certain symptoms. Wards certainly thinks that a therapeutic hyproxis should never be entrusted to any one who is not a medical man, otherwise we should be encouraging

quackery.

On the other hand, I do not think that every medical man is at to undertake the hypnotic treatment of putients. Just as in other special branches special knowledge and experience are requisite, I am also convenced that the experimenter in hypostian must have a special faculty for hypostiang and suggesting, and to avoid any misunderstanding I may add that I do not lay any claim to the possession of this special faculty. Frank regiets that suggestive therapeutics have been so greatly neglected by electron, and traces this to the fact, among others, that everybody does not possess the necessary ingenuity, as it were, for employing the method successfully. Just as many impondensitive play a part in hypnome treatment as in mental therapeutics in general; and this provents the majority of experimenters from obtaining the best results. The gift of individualizing, which we so often bear of in medicine, is given to few as far as hypnotic treatment is con-But this power is all the more necessary because men are no more alike mentally than they are physically. Since each of us does not possess this gift, we have no right to desy the successes of others became of our own fallaget. An eminest Swedish alternist - Oedmann - says that he recognizes the good effects of suggestion in alcoholism, but that as he is unable to produce them he sends such putients to Wetterstrand (Corval). In any case, it is a mistake for dectors, who have no aptitude for mental therapeuties and who exceptive lack experience, to

deny the successes of others.

But even if every one is not a symmetic therapeutist by nature, it does not follow that specialists alone have a right to practise hypothe treatment. In simple cases it is not always accessary to call in a specialist; and in addition to specialists there will, very properly, always he some medical men who occasionally practise hypnotic treatment. It is much the same here as with other special branches. A country doctor, or one in a small town, often treats cases or employs methods, which in a large town would be left entirely to a specialist. But even in large towns we can hardly desire that all hypnotic treatment should be carried out exclusively by specialists. Sometimes no advantage whatever would be gained by the patient leaving the doctor who had been treating him and tocking the services of a specialist for the purpose of some hypothesitting or other. The patient's elecunstances have also to be comidered in such a case. In short, it is quite wrong to assume that only a medical specialist should hypnotize. Of course a patient has a right to expect that a doctor who undertakes to treat him hypnotically has lead a certain amount of training in the uractice.

But I do not think it right that when a patient places kinself in the hands of a specialist for hypnosis the latter should confine his treatment exclusively to hypnosis. Specialism is not without its dangers. The specialist who only treats particular diseases, like the specialist who only employs certain methods has a tendency to become bisised. The mere fact that we cannot dispense with these two forms of specialism in no reason why we should shut our eyes to their dangers. Specialization, especially as regards methods of treatment, should be carried no further than is absolutely necessary. For this maton I do not think it right to consider hypnotic treatment an exclusive specialty. The man who denotes himself to logusatic treatment must cultivate psycho-therapeutics in general at well. There are so many details and so many combinations to be considered, that it would be intational to separate hyperetic treatment from the rest of psycho-therapeutics. I will give an example. The assertion that alcoholism can only by cared in an institute is a fairy-tale; many alcoholists can be made abstainers by proper mental measures outside an institute. In

some cases hypotonis renders the task casion, but alone it arbitom leads to a cure. Wherever drinking is a social ensures, the putient is always liable to be led astray by his commanious. It is consequently accessify, especially in the earlier stages of the treatment, to modify the patient's surroundings so as to keep him out of temptation. The luneficial effects of temperature societies and of doctors who are abstainers depends on this Borne lays special weight on the doctor being an abstrainer, because his example and the consiction in brings are most effective methods of suggestion. Without wishing to conggestate its importance, I must certainly point out the occuraty of giving some advice to the patient's everyage. In many cases it happens that a patient who is convinced he can do without alcohol thinks by can also resist temperation; but at first be requires protection, which the doctor must endeavour to provide him with. It would be loolish for the doctor to leave this to a colleague, and merely confine his own attention to the hypnotic treatment. Legrain reports that a number of dispensaries have been established in Russia, at the instigation of the Government, which are visited by numbers of alcoholic subjects in search of from treatment. Here hypnosis is the chief, but not the only, comedy employed. And such is the only right way. It is almost invariably necessary to bring a number of other mental influences into play simultaneously with hypnosis. Mental treatment is not quite such a simple matter that "every tailor, cobbler, and shepherd-boy" can carry it out, as It wald thought.

I go still further on the question of specialism in hypnoxis.

I go still faither on the question of specialism in hypotosis. Psychology teaches the physician the unity of man's being, and that should be taken into consideration in the treatment of a patient. For a doctor who is treating an emaciated neuropathic patient for elemberaries to consider himself so much a specialist in hypotosism that he cannot attend to the patient's diet himself, but must call in a specialist in dietetica every day, is not only ludicrors but injurious as well. It is just from the payerhological standpoint that uniformity of treatment is so necessary. For this reason I agree with Ferel that, as far as possible, only one doctor should treat the patient by methodical suggestion. I do not mean by this that a moderal hypotosis should not occasionally call in a collargue such as a specialist in diseases of marition, or that he should not busy himself specially with hypotosis, but he should not do the latter exclusively. I may here remark that upon from the patient's interests, it is not to

a doctor's interest to let himself appear merely the agent of a colleague at whose orders he confines himself exclusively to applying hypnosic treatment. This would be just as degrading as for a surgeon to perform an operation at a colleague's request and then leave any medical after-treatment of the patient to another medical man. In the same way, a doctor should never let a patient tell him what is indicated; be only places himself in an undignified position by so doing. There is great danger of this happening when a doctor devotes himself entirely to hypnosis to the conclusion of all other methods of treatment.

Granted these sestrictions, we would wish that there should be specialists in hypnotic treatment. Most doctors day's work is so arranged that they are presented from practising hypnotic treatment systematically. That requires a considerable arrows of time to be reserved for special cases; also the doctor when so engaged should not be disturbed every minute by the foot-floor bell, the eing-up of the telephone, the impurionce of clients in the waiting route, etc., etc. A man has to arrange the name of his practice and map out his day accordingly. Many doctors are able to do so; others will not. A suitable arrangement of the hours for treatment is all the more necessary, because the creocours notion in still very prevalent that hypnom cures in one or two sittings.

It would take too long to give a detailed description of all the rules for hypnonic meatment. Works devoted exclusively, or essentially, to hypnotic or suggestive therapeutics, give many details and may be consulted by persons interested in those questions. I make special mention of the works of Bernheim, but refer more particularly to the articles by Brodmann which appeared in the *Entwirth für Hypnotismus*, 1897-1000. As a rule every doctor gradually develops his own method. In this as in the methods of hypnotising these are also numerous individual differences. Nearly every one who peaction hypnotic therapeutics has some device that he considers particularly useful. Labbeaute and Bernheim, Forel and Yog, Schreuck-Notsing, Grossmann and Hirschlaff, Dollken—nearly every one of them has described some artifice or other that he has found effective.

It is of importance that the patient he given a certain amount of preparation; any feeling of dread of hypnosis must be removed first of all, then the nature of his mulady must be made clear to him, and finally it must be explained that mental influence can often be employed to a patient's benefit. As Bourdon very properly senarics, the hypnotics should not begin by telling the patient that he has no pains. Considering the dangers that may arise from fear of hypnosis, it is as well to desirt from hypnotising the patient until the fear has passed. Forel and Tokarski have expressed theraselves in this sense.

We must, further, waske a distinction between preparatory and therapeutic experiments. First attempts at hypnosis may fail but later ones prove successful, and only a superficial hyprosis may be induced when a deeper is desired. Certainly politions differ as to what abould be the depth of the hypnosis; but I agree unconditionally with those investigators who consider that engrestion is a much asore powerful therapeatic agent in deep hypnosis than in superficial, and I cannot understand how anythody can maintain the contrary. Fuchs also thinks that deep bygatosis is not necessary when treating season perversion. I take a totally different standpoint, and advance the following views for consideration. Changes that occus in the voluntary muncular system are the chief characteristics of seperficial hypeosis, and how aboutd that enable one to influence impulses and emotions in the manner requisite for the successful treatment of sexual perversion? On the other hand, the essential characteristic of deep hypnosis is that it enables us to influence the patient's mental life, and not merely his voluntary muscles. I do not deny that light hypnosis has proved successful in some cases of sexual perversion, but I think that in such cases other factors were possibly of greater influence than zine specific action of freprioric suggestion. Many things quite independent of hypnosis are of great therapeutic value-such as the avoidance of unseemly pictures. Further, auto-orggestion on the part of the patient, arming from confidence in the treatment, may also act beneficially. Confidence in hypnosis may slone prove beneficial, but the success should be recribed to the patient's trust in the periody employed, and not to any specific action of hypnotic suggestion. We can understand that this differs essentially from the action of hypotetic suggestitility. Of course, when a patient has confidence in superficial hypnosis we must utilize that confidence. But there are cases in which deep hypnoxis holds out better prospects, if it can be attained. I have often had to segret my inability to produce deep hypnosis in cases in which it promised good results.

Practice and experience enable on to decide in each case whether the hypnesis is deep enough for the appearing experiments, or whether the parient's ecceptivity for the appearing suggestion should be increased by preparatory measures.

In many cases the object of treatment can best be attained by penuting a slightly coundshoot way. Laurem memors cases in which persons have been weared from tobacco by suggesting that the sentil of tobacco is unplement. In this way hetter results are often obtained than by suggesting that the patient should give up amoking. In many cases I have found it an excellent plan to place the hypnotic subject back into earlier periods of life. I have sometimes found that suggestion. even in deep hypnosis, did not remove acute pain; but if I placed the patient back in a period when he suffered no pain, it was possible not only to remove the pain during hypotole, but also to keep him free from pain when he returned to his own time of life, and after awaking. Russel Stargis recommends. at all events in such cases of "fixed ideas" as he treated, that the augmention should be noted down before hypotois and communicated to the putient, in order to exclude any misundesstanding of the suggestion; he further recommends frequent repetition of the suggestion during hypnosis, and its communication in a poment, not a feture, form. But there are points that have to be considered in connection with each individual case; no general rule applica to them all. In many cases it is better not to make any suggestion during lyamuss, because the autoanogeition arising from pre hypnotic suggestion zeta more powerfully when verbal suggestion is left out. I have often sean the advantage of this when the hypnosis was asperficial and consciousness estained. A patient knows what is expected to happen when he is hypnotized, and the espected happens without verbal suggestion. The latter is often superfluous, may even be injurious. Unintentional resistance on the part of the parient may easily make itself felt and thereby being about exactly what is not wanted.

Since intense pain often readers hypensis impossible, it is sometimes necestary to make the preparatory experiments during a full to the pain. Later on hypensis can be induced

even when acute main is poesent.

Nothing definite can be said as to the frequency and duration of the sittings. These are cases in which hypnesis has to be repeated frequently, and it is sometimes necessary to have

recourse to hypnosis to prevent relapses. In other cases it is as well to first the satings from the first, because, as Forel has very properly pointed out, the experimenter's influence may producily diminish as the training of the patient increases. In other times, again, it may be necessary to commune the treatment for some time. Sometimes we have to proceed slowly and methodically when the suitably to be cured by suggestion is deep rooted. I cannot understand how some dectors invariably expect immediate success from hypnosis. A doctor is often satisfied if he obtains good results after many weeks or months of electric meatment, and in an establishment a cure has to be carried out for very many months. Why, then, should hypnotic treatment be expected to case disease in one

or two days?

Various authors have recommended the practice of collectively hypnotiting several patients, as Liebean't did many years ago. The psychic contagion is said thereby to become stronger and hypnosis rendered much easier. Other hypnotists-for example, Wettentrand, Groumann, Vogs, etc.-have made the experiment more recently, but as Max Hirsch has shown, it has both advantages and disadvantages. Among the latter may be mentioned possible breaches of professional secrees. I recollect, for instance, the case of a doctor who by such collective hypnosis enabled some patients to know what others sure suffering from; that this one was a morphism, that a diprominiae, that one patient was a maintripator, another a victim of sexual perversion, and so on. Schrenck-Notting tenther remarks that people of the better social classes very often object to such collective hyproses. There is also the danger that the personal influence of the hypostrat in individual cases may be lost. Mayroukakis also reters to the possibility. of what he calls indirect suggestion? It would also easily be possible for a patient. A., to be influenced by a suggestion to B. Bat if A. is unifering from narcolepsy, and B. from imomnia, the taggestion to B. to sleep more would harely work favourably on A. But such action carrier always be confuded on all these mounds. I conclude that while hypnisis in common has certain advantages, such as sporting the physician's time, it carried be recommended in all sixes.

<sup>(</sup>This is a different hind of indirect respection from that mentioned on p. 54.

As I have already mentioned, the employment of hypostic suggestion should not preclude the use of other semedies, when their application is indicated; and I have also called attention to the fart that other mental influences besides suggestion may be operative during hypricois. The action of suggestion may, for example, be supported in a case of hysterical vomiting, by telling the patient during hypercois that she is not suffering from any organic disease of the stomach. In cases of stammering, in which the patient's mental state of course plans a great part, we shall sometimes have to supplement suggestion by exercises in talking. In a case of aphonia following larengotomy, published by Hilger and Singer, the action of hypnosis was supplemented by systematic exercites of that kind. And it is also just as necessary to avoid anything that might spoil the prognosis or render suggestion ineffectual as it sometimes is to employ other remedies in conjunction with hypnosis. It is, therefore, sometimes as well to explain to those present that they should not make heedless remarks or put stupid questions that might counteract the suggestions made to the patient, Just as people can be made if by constantly telling them how poorly they look, so a cure may be prevented by making the patient believe that it is impossible or by patting him in constant dead of the remedy-hypnotic suggestion for

It is often said that hyproxis may be used, but only as a sort of last hope. I consider that not only an anjust view of the importance of hypnosis but impracticable as well. Considering the large number of remedies and methods at our disposal, some parients would have to attain the age of Methuselah before hypnotic treatment would be permissible on such principles. It is the duty of every one who believes that hypnosis is harmless when properly applied, to use it where it is indicated. It often happens that this longer a disease has lasted the more difficult it is to cure, and some diseases become incumble because they were not rightly treated at first. We might hesitate to make long preparators experiments with people difficult to hypnotice (Grasset). But where one or two experiments demonstrate that a sufficiently deep hyproxis can easily be induced, it would be a mistake to postpone hypnotic treatment until a hundred other methods, all disagreeable to

the patient, had been tried in vain.

I have hitherto discussed the use of hypnotic engestion to

remove morbid symptoms, but, as I have already said, the importance of hypnosis to medical practice is not limited merely to that. For instance, I briefly mentioned prolonged hypnosis and touched on the prophylactic use of hypnosis where morbid states have a tendency to recur at times. I also mentioned seasickness, and I may add that hypnotic suggestion has been recommended as a prophylactic in-cases of attacks of migraine. It has also been specially proposed that the increased power of memory exhibited by hypnotics should be utilized for therapeutic purposes. This has decasionally happened in close connection with suggestion. Nact used it to remove a temporary total, and partially retengrade form of amonia. The patient, who had Ived in Australia at the time his memory was beginning to fail, was methodically treated in hypothis with the magnition that he would at once regain his memory for details of all kinds, and would retain it on waking. The possibility of increasing the power of memory in hypnosis has been used by others-Brodmann, for example-for the purpose of ascertaining the pathogenesis of certain disturbances. Various authors also state that in cases of organic busion it is possible to carry out movements in hypnosis which cannot be executed in the waking state. Stembe thinks this must be ascribed to a heightening of memory; he believes that the memory-images of movements that have fallen into dimne are list in the waking condition. Consequently the movements cannot be carried out even when the lesion is repaired. In hypnosis, however, there is a heightening of memory by which the mechanism of movement is again recollected and to set in action. On the other hand, a few doctors-Yogt and Stadelmann, for example—have employed suggested amnesia for therapeutic purposes.

Special mention must here be made of two authors, Breves and French, who have put forward the possibility of heightening the memory in hypossis as a recommendation for a special form of treatment which they term the exthatric method. They stanted from the hypothesia that hysterical symptoms are often exceed by an arrested emotion. The process which produced the hysterical symptoms must be made quite clear to that the emotion which it assested may be released. For this purpose the patient should be made to give as detailed an account of that process as possible, and thould also be made to express the emotion in words. Both investigators ament that they have

carnod the immediate and permanent disappearance of single bysterical symptoms in this way. Freed found later on that he could influence other neurons not usually considered hysterical, and especially imperative ideas, in the same way, Frond gradually extended his investigations to other neuroses, with the result that he became convinced that, if we may speak of a cause in connection with acquired seuroses, then the etiology of such complaints ment be sought in some sexual moment. I do not intend to discuss the further development of these theeretical considerations, but will merely remark that what Freud says on the etiology of neuroses is undoubtedly one-sided, and will not, I trust, must with general acceptance, for surely we do not study human beings solely from the standpoint of sexual life. Froud then proceeded to develop the cathanic method, which he calls Breuer's, still farther, and applied it to non-hypnotic states in particular. For example, under cover of all kinds of pretexts, a waking patient was set the task of recollecting what it was that had brought about his troubles. He was ordered to exercise his memory, concentrate his thoughts and shut his eyes; his forehead was then touched, in short all kinds of devices were resorted to to brighten the momory of a waking patient. The point was, that the patient should recall the process that, in Frenc's opinion, had acted morbifically. In this Ferud started with the special assumption that a sexual process was the original cause of the mental injury and thereby gave rise to the bysterical trouble. In addition to hysterical troubles, imperative ideas are said to be caused in this way. But general experience has not furtified the hopes that were placed in the Breger-Freud method, Krafft-Ebing, Lorsenfeld, Seif, Wards and many others with whom I agree, have not observed any great benefits from it. Kraffe Ebing, in particular, was quite right in saying that even if heightening the memory suffices to rause the original mental lesion to rise once more into the permary consciousness, it by no means follows that the patient is cured. To which I think we west add, that much that is assumed to be pathogenic was unintentionally suggested to the patient by Freud in the exercise of this method; this also is a source of error that can landly be avoided. When good results are obtained, they are not necessarily the effect of the cessation of the reaction-ie. the reproduction of the idea on the outbreak of the emotion. Here, also, it is fir more probable that unintentional suggestion

on the part of the physician employing this method is the source of the cores.

I have hitherto only discussed the thempositic importance of hypotosis, but a centain amount of importance has also been acrobed to it for purposes of diagnosis, by Bembeim first of all, as far as I know. There are cause in which the diagrosis between functional and organic disease is not clear. If the morted symptom-aptomia, for casmide-disappears under suggestion, then the affection is functional, but if it persists the trouble it more probably organic-in, the diagnosis is to be established or junustable. Delition, Brunos and limould have published cases in which the diagrees of organic disease. has been residered coaler by hypnosis. A core mentioned by Schubbye of ligareria localized in the univery aphere was diagnosed at this way. Similarly, an error in diagnosis which had been made in Carmy's Clinic, Heidelberg, was corrected by Starck by means of suggestive treatment. The patient, a wiman aged twenty-two, was ruffering from supporation of the right middle-cur. In addition to dearness there was severe unitateral headache, vomiting after each meal, giddiness, imability to walk, absolute sleeplessness. A cerebral absocus was diagnosed, but operative measures were postponed for a time. In the meanwhile hypothe treatment was awarded to, with the result that the sickness, sleeplessons, giddiness and traditity to walk disappeared, and the patient was very soon able to attend to her household duties. Although the patient continued liable to passing attacks of headache, we are justified in assuming that the original diagnoses was erroneous and that it was subsequently rectified by the treatment employed. At least this assumption seems to me much more justifiable than that the abovess was cured by suggestion or and healed spontaneously. A. Westpool, also, has published a case belonging to this class; is it the psychogenic origin of contractures of the eye (convergence, and contraction of the pepils) was proved by the arbitrary removal or production of the contractures in hyproxis. The question has also been discussed whether epileptical or hysterical amnessa can be removed by suggestion. Riklin, who thinks that he can remove epileptical amount by hypousis, is nevertheless opposed to the mampiles that the disappearance of the amounta points to hysteria, or its percentance to epilepsy. On this operation I refer the reader to what I said on page 120.

Gimperts has also called attention to hypnosis as an aid to diagnosis. He distinguishes two ways in which hypotosis may be employed for this purpose. In the first place, the result obtained by suggestion is of importance, as in the cases already mentioned. Gunperty thinks that in a case in which the diagnosis between paralysis agitans and a transmite hysterical affection was not clear, he was justified in excluding paralysis agitans, because suggestion arted beneficially on the tremors. He also thinks he was right in describing a case of paralysis of the obliques entering as hysterical puress, because of the beneficial influence of suggestion on the double vision. The third case was that of an elderly maides lady suffering from contractures of the muscles of the hands and feet; a single hypnotic sitting sufficed to remove the contractures, and it was shown both by the assumes and the influence of hypnotic suggestion that a subsequent attack of autuals might well be put down to bysteria. Secondly, Gumpertz considers that, besides the results produced by suggestion, the course of a hypnosis may be used for diagnostic purposes, became deep sommanbulism with hallorinations makes one suspect bysteria just as a brief period of spontaneous oblivion after waking does. Hirschieff also, who holds that sommambulic hypnosis occurs in some forms of cheenic intoximation of the nervous system, especially alcoholism and morphinism, thinks we may use hypnosis as an aid to diagnosis on this assumption.

I do not deny that hypnosis can be used as an aid to diagnosis, but I hold the opinion that this should only be done with the greatest reserve. First of all, as far as the opinion of Gumperts and Hirschlaff, who use deep hypnoticability in the diagnosis of hysteria, is concerned, I think we must be very cantious in this connection. I must here refer the seader to what I said on p. 303 et sep., concerning the meaning that attaches to "hysteria." But we must in general be very careful about using hypnosis for diagnostic purposes. Take the case of a person suffering from severe pain in which the diagnosis Les between a tumour and a hysterical pain. It is easy to assume that a differential diagnosis can be made became suggestion removes functional, but not organic pain. that from the practical point of view there are many difficulties in this respect. I do not lay any weight on the fact that there is tray often a combination of functional and organic pain; but what follows is well worth comidering. There are

functional pains that carnot be removed by suggestion; therefore the persistence of pain might be no proof that the disease is organic. In addition to this the pain caused by organic disease can, as we have seen, to removed by segpestion, at least for a time. Seeing that a degree of analysis sufficient to render the prick of a needle or some otherwise painful operation painters may be induced by suggestion, it follows. that the beneficial influence of suggestion does not exclude the organic nature of a pain. At any rate, when a pain disappears for a considerable length of time shrough the influence of suggestion we may assume that very probably the discuse is not of an organic nature | but it is only to this imited extent that we can emaider bypnosis an sid to diagnosis. All that I have here said in respect to pain applies equally to other organic and functional symptoms -c.g., paralyses. I must here refer the reader to Bembein's remarks on the influence of suggestion on organic diseases, and may add that I quite agree with Gorodickee, who long ago proposted against any maggination of the diagnostic importance of hyperesis.

I now come to the use of hypnothem in surgery. Hypnotiring for the painless performance of operations is not new; one inventive gentus even imagines that God took the rib from Adam while he was in a hypnotic sleep, since he would certainly have waked find it been a natural one. In the days of animal magnetism surpical operations were often performed in the magnetic sleep, for instance, by Recamier in 1821. Such operations were also performed to several of the Paris hospitals under the direction of the Baron du Poort. Cloquet used it in 1810. He related his experiences to the French Academy of Medicine, but Lishare, the relebined surgeon, put him down for an impostor or a dupe. Onder was no better received to 1547, when he told the Academy of the extraction of south in the magnetic sleep. In 1840 Esdaile performed a number of operations during meamerically induced sleep in the Mesmeric Hospital at Calcutta. The wounds are said to have healed very quickly. Hellwald, also, has recently drawn attention to the quick healing of the wounds of the Arab pilgrims, which are made in the hypnetic state. In \$822, Vogler, although very sceptical as to animal magnetism, made Eachile's results known in Germany. Elliotson at the same

time was using engennism in surgery, in London. Braid, who was much struck by Esdade's results, also med hypernis in surrery. At that time the opinion was expressed-it has some adherents even non-that memoria passes induce analgesia better than Braid's method. Azum inought Braid's method of analysis or Paris, as we saw on p. 16; from thance it passed to Germany, but found little support. Nasshaum, who had studied animal magnetism in Paris, thought that Germans were not suitable subjects either for imagnetism or Brainf's methods. None of his attempts to substrate hypnosis for chloroform met with success. Preper says that military doctors and others appear often to have used empirical hypnothing methods to induce analgeou for small operations, such as south-drawing. | Enewill observed that after a succession of deep respirations a brief amouthesis appeared; this was confirmed by Hewson. Possibly this is an autohypnotic condition, or an auto suggestive aniesthesia. Recently Forel, Voigt, Tithux, le Fort, Gensemann, Bourdon, Heward, Wood, Toll, Schmiltr and Scieck have used hypnetic analgusa. in surgical practice. In 1840 Haab used hypnosis in the operation for cataract; extraction of the less was preceded by indectors; on both recusions the patient was bymostized and anaethesia produced by suggestion, and he smoked an imaginary pape as the iris was cut through. Lauptieur, Aldrich, and others have even used bypoosis for amputations, and Hulst for enstroiony.

from parts up I once byprottered a partieur in order to open a bulk parallelaly. I did not narrowd in inducing analysiss, but the patient was almost mattle to move, so that I could purious the little operation with rate.

Analysis has non-term induced by post-hypostic (aggestion and an operation performed without difficulty in the scaling state (finances).

It has been specially for the purpose of extracting tooth that hypnotic suggestion has been on frequently used (Bramwell, Andrew, Hivert, Klemich, Sandberg, Molecud). Glogoulos even recommended its general use in dentistry. On the question of its practical importance the same semarks would apply as in the case of the use of hypnosis in general surgery.

Benders this, I cannot approve of decision who have so their personal worked training our capations: being allowed to beprecite their persona. There are come in which becomes in coming microsoft, but that is a quiet

that can only be desided by a properly trained medical men. Just us a destor is not in a pouriou to treat every kind of dintal familie, so, too, a Sented in not fined by his training to determine when hyporets is continindicated to us carry out the process of hypostering in a technically correct extenses. We may take it is quite certain that the ill-effects and to be livingful about by hypmans are really one to incompetence. When a Scottat, Beits senger, talls ut that a Nighly intellectual and natented young man whom he had frequently hyposthed subsequently descripted an aversion to seek, showed symptoms of prescutory mania, and formed a retermination to provder him Ultriammeter), then we may declare straight way that either the patient was a psychopathic individual, or that Bemwanger, in spite of his americanicos to the contrary, did not go to work in a proper way. In any case we can only advise Beisturnger very strongly forer again to undertake a method of nextweet that he show not understand. Dentists in the present day complete often complitablest quarkery; they should encemently oppose these of their colleges who mobile with matters with which they have as little right in deal as a much his with Sergistry.

The value of hypocsis in obstetrice is about the same as in surgery. Lafontains and Fillamier, among the memocrists, liver imagnetized women during labour. As Freyer reports, Jorg containly thought birth impossible in the magnetic sleep without a quick awakening. Lieboardt has also med his method of hypnotising in obstetrics. A series of such cases has lately been published (Prittle, Mesnet, Secheyron, Award, Thomas, Vamier, Voigt, de Joseg, Schrenck-Notzing, Tatrol, Grandelemps, Luys, Calal, le Morant des Chesmais). A case in which Delboys and Frasport hypnotized a woman in labour belongs here. The results were not enfavourable. The pains were regular and strong, and could often be made almost insensible by engreation. Khowise used post-hypsicist suggestion to prevent attacks of ligatero epilopsy in the case of a wroman in labour. Directly the paint started, an attack threatened but was prevented in the marner mentioned. Indeed, towards the termination of the labour the patient lost consciousness at each pain, but only for a few moments, and just before the birth terminated pain was again experienced.

The value of hypnosis for producing analysis must not be exaggerated. Sometimes analysis consut be induced at all, and sometimes it is only possible to obtain complete analysis after repeated trials. The excitement before the operation increases the difficulty. The cases in which hypnose can be used to make a severe surgical operation painless are very sare; the case with which every such case is registered by the daily

press shows this. Besides, we have at persent many means of inducing analyssis that are much surer in their sciion than hyperosis. In addition to other, chloroforts, and the like, there is Schleich's method of local anesthesis; further, the modern method of spisal assesthesis by injection. When by chance a person who is to undergo operation is found to be very seaceptible, there is no remon why hyperotom should not be used. Hack Tuke and Forel think that hyperotom should not used intend of chlorofort in all cases where that anisothesis would be particularly designous. Found believes, besides, that analysis, sufficient for operative purposes, is more easily induced than I suppose. I certainly think it possible that a clever hyperotist may obtain better results in this discention than I have been able to do.

## CHAPTER IX.

THE MEDICAL ASPECTS OF STPPNOTISM (AMARINA).

t. Thousehold Counterations.—In the foregoing chapter I have discussed the medical importance of hypotonis, but only as far as its practical application is rencerned. But the medical aspect of hypnosis is not thereby exhausted. Hypnosis has proved of far greater value to medical science, and its indirect unintance to themperatics has been more valuable than anything produced by its more practical employment. As far as the latter point is concerned, hypnosis him led to the development of a new branch of the healing art, psychotherapeutics, which

I shall discuss in the second section of this chapter.

Hyprosin has also proved of importance in medical research. It has thrown light on a source of error in judging the motive operand of thempestic measures, which, although not unknown, had been very much underrated. The good results obtained by the use of certain remedies med to be erroneously ascribed to chemical or physical action, whereas it was really suggestion that produced the results. This applies to innumerable therapeutic measures, quite as much to physical methods as to the products of chemical factories. It has also often happened that while one doctor has seen nothing but failure with some drug, another has imagined that it produced beiliant results. As there could be no question of bad faith in such cases, the contradictions they presented necessarily appeared enignatical until suggestion supplied the key to their solution. We must also bear in mind that a patient's confidence in the advice given him by his doctor very often suffices to bring about the good result, and sets the suggestive action going. If the same remody note differently when administered by different doctors, we are justified in asking the question, to what extent was the difference in its action due to psychotherapeutic influence? We have to consider that the doctor's conviction of the efficacy of a drug is transferred to the patient. A doctor does not only employ suggestion consciously, but often without either knowing or suspecting that he is doing so. Let us take an example of recent date. Some investigators-Joh. Fred. Fucher, for instance—have asserted that in supperous cases os aven't market me in thildren is brought about by adenald segutations. Fischer, indeed, thinks that in the vast majority of cases in which these two symptoms are found to occur together the children censeto wet the bed as soon as the adenoid vegetations are removed. Another doctor-Victor Large-disputes the existence of this connection, because in his experience adonoid segetations had the opposite effect. But when we consider that mental influence plays a most important part in suppressing sussening wechesar, and that the doctor's confidence in the method be employs is transmitted to the patient, the raises after of the different results obtained by the operation is at successident. We are justified in applying the same criticism to many other methods which are said to care exceeds sections. Missimilian Hirsch asserts that he has obtained brilliant results with Chatelin's epidaral injections; but this is contested by Gotal on the ground of his own contrary experience. When we see that a number of other doctors who have busied themselves with hypnoris-Liebeault, Ringier, Hacklinder, for memorobtain just as good results with hyperetic suggestion as Joh. Fred. Fischer, Masimilian Hirsch, and others do with their methods, may we not take it that suggestion is the common havis of all these methods?

Many also of the opposents of hyperdism have often undersited the suggestive moment in their remedies in an illogical manner, and have thereby proved that they would have done terror to study hyperdism than to oppose it. To pick out only one of these opposents, I mention Mendel, who attempted to introduce the suspension-treatment of taker dwarfs into Germany. (The attempt is nowadays only of historical interest.) If Mendel had studied the question of suggestion in consection with suspension, there would have been no optionics of suspension treatment in Berlin. I may remark, by the way, that as far as my superience goes you mind, which was so warmly recommended by Mendel in the treatment of impotence, has so other importance than that derived from the suggestion that accompanies its exhibition. At least, among all the cases that I have treated with younglass I have been unable to find a single one in which the effect produced could be inseed to the somatic influence of the drug with any degree of probability. Other opponents of hyproxists, too, who have recommended chemical remedies, have made very similar mistakes because they were unable to form an adequate estimate of the action of

nuggestion.

We shall, under certain circumstances, he able to avoid falling into any grave error as to new remodies and their action, provided we recognise the significance of suggestion. How comes it that so many remedies are not only widely advertised but even enthusiastically recommended by some domors, remedies that so soon prove to be oseless? How many temedies have been proclaimed hypnotics, how many appearants. only to be forgotten immediately? And on what does their transient encores depend? On suggestion alone, often enough, When a doctor is convinced of the narcotic action of a certain drug, that conviction is readily transmitted to the patient who is under his suggestive influence, and there is therefore no cause for surprise when the remedy does produce sleep. That is why Romnbach has given a proper way of testing new hypnotics. It is impossible to determine the value of a hypnotic remedy scientifically, when the patient knows he is taking such a remedy. Hypnotism has distinctly proved that. And it is first the same with a number of other remedies, such ns purgatives, astringents, anodynes, etc., etc. All these substances can only be tested as to their true somatic action when every form of suggestive action is serupulously excluded. and the first cognisite in this respect is that the patient should know nothing about the espected effect. The significance of electro-therapeuties has frequently been discussed from this point of view. Motios has traced many electro-therapeutic effects to suggestion, and, in an exhaustive work on the question. I have expressed the view that, in very many cases at least, the action is monthly in other cases I concluded that the improvement or cure was spontaneous. This view has found both opposents and followers. Whereas Delpest come to the conclusion, on statistical grounds, that electricity made no difference, the care being no more rapid, other observers have not relinquished the physical influence of electricity in electrotherapeutics. Among such observers are Eulesberg, Sperling, Learnerfeld, Miller, Laquer, Remair, Wichmann, Eulenburg, nevertheless admitted that in a great number of cases the

action was of an essentially mental nature, but that at the same time we must not deny that there is often an action independent

of suggestion.

It is very interesting to observe how often the smald-be illacoverer of some particular method thinks he can put aside the possibility of suggestive influence without producing even a trace of proof for his assumption. Thus Fleury, on the ground of theoretical considerations, regards the intusion of salt as the specific agent in the treatment of neurasthenia, and thinks that in so doing he excludes the influence of suggestion. When Nigeli, who treats neuralgia and neutosis by a process of manipulation, concluded a lecture with the words "suggestion is excluded," Forci very properly pointed out how little is proved by such assentions. In fact, any experimentar of experience in the domain of suggestion must often be autonished at the insthinking manner in which suggestion is assumed to be excluded. As Forel has rightly pointed out, Brown-Sequard's testicular injections must be considered from the same point of view. Massolongo segards their operation is purely suggestive, and Martinet is convinced, on the ground of numerous experiments, that it is a matter of indifference whether testicular fleid or distilled water is injected. Save the peripheral stimulus imparted by the injection, there is no other einemial moment worth minding but the operation of suggestion Of course this is no reason for denying animal substances all somato-therapoutic action. I would only point out that the results obtained by these and other similar therapeutic measures can be completely explained by suggestion.

At all events, there are remerous cases in which this explanation is much more uninfactory than any of the complicated and pseudo-scientific attempts at explanation that are so frequently made. A striking example of this fact is supplied by balanco-therapeutics. Formerly the efficacy of such treatment was ascribed to sales in the springs visited, and the enormous influence which leaving home and all business treathless must have on a patient who visits a watering-place was ignored. But in order to attribute a thoroughly specific action to springs, special value has recently been laid on radio-active substances. And yet an unbiassed investigator will often find a perfectly adequate explanation in spontaneous improvement, and in numerous other cases in the influence of ingention—on replanation which makes him feel thaso

"scientific" atterpretations more triflings which remind one of the wood that cannot be seen for the trees.

Even in the case of operations we must always be on the watch for mental influence. I call to mind the discussion that enmed on the introduction of castration for hysteria and mental affections, and I cannot do better than quote the excellent remarks made by Julius Friedemann in his thesis for the degree of Doctor of Medicine -"Only to think of the number of women who have, in reality, been mutilated since climidectomy was introduced as a cure for neuroses and psychoses! But neither in bysteriz, nor in epilopsy, nor in onanism, nor in any psychosis connected with sexual processes will any good result from removing a healthy circuit. It is new said that the aversuse has been discovered in the evaries which are to blame for all the lamentable symptoms which characterize those diseases." Even at that period Friedmann, Israel, and Landau opposed the views held by Hegar and Tauffer, and rightly drew attention to the mental influence of each operations. Unfortunately, a general approximation of mental influence was impossible in those days; but time has wrought a change in that respect.

Of course, there are many questions in this connection will unselved, and even now we are at times unable to decide whether some particular therapeutic action should be ascribed to suggestion or to somatic influence. But unfounted proof of the exclusion of suggestion abould always be given when to influence is denied in any panicular case. To assert apodictically "suggestion is excluded "does not furnish such proof.

On the other hand, we must beware of tracing everything to taggestion after the marrier of people who delight in earthwords. Since the influence of suggestion was understand at first, it easily came to be openiously esuggestion was understand at first, it easily came to be openiously esuggestion of remodica was theried, and results were traced to suggestion. How for we may be led assay in the marrier is shown by the morphous which was given to Schleich's method of inducing local analystic. The fact that local analystic could be induced by suggestion. Bath, for instance, had induced a sufficient degree of anasthesia for minor operations on the threat by persuading the patient that the solution of common salt with which his threat was pointed was comine and therefore condered the muchus membrane insemilies—led to the

erroneous conclusion that Schleich's method was suggestive, though Schleich had shown that the injection of water produced such swelling of the tissues that a surgical operation might be painlessly performed. In the case of internal remedies, also, the action of suggestion has occasionally been assumed in the wrong place, not only in respect to chemical or physical action. but where the action of a drug has been simulated by a spontaneous cure of apontaneous improvement. I have already discussed the latter point in detail on page 197. Here I will only call attention to a point that shows how careful we should be in the use of entehwords a de suggestion. In recent times homoeogathy has come to be looked upon as a form of suggestive therapeutics | but when we consider that homosopath is also plays a great part in veterinary medicine, and that it is impossible to understand how an animal so very low down in the intellectual scale as a none should be influenced by suggestion, it follows that there are other sources of error to be considered in the case of homosopathy. I think that both in exteriousy and medical practice many a really spontaneous cure is pet down to homocopallic treatment. Of course, such real expanents of homosopathy as Roth, Sperling, Lorbachez, Plander, and Julius Fuchs distinguish between the officacy of homocourty and suggestion and spontaneous restoration to health. Kail Genter, a physician intimately acquainted with homosopathy, gave a scientific demonstration in a discussion he had with the horsespaths that homosopathy requires revision from the standpoint of suggestion.

Hypnotism has also enriched our knowledge by smalling us to understand the pathogenesis of certain disease. I refer here to the importance of auto-suggestion as a factor in the genesis of thismae. Charcot already had admitted that patalyses of transmitte origin often depend on the patient's auto-suggestion that some limb could not be moved. In recent years there has been considerable discussion as to the extent to which auto-suggestion may be responsible for other nervous phenomena of transmite origin. It was recognized that when the victim of an accident is convinced that his injuries are nound to bring on an illness, some symptom or other of discase will appear. Kraff-Ebing and Wichmann are among those who take this view, and usun if others—Meynert, for intrince—have contested the importance of auto-suggestion, the number of investigators who averibe essential importance to

this psychological factor is the production of the numbers which follow are identa is permanently on the increase. Hypnotism has also contributed indirectly to our knowledge of the pathonenesis of traumatic neuroses by placing the general importance of mental influence in a right light. Thus, it has seen pointed out that the quartels and litigation nowadays forced on a person who has been hurt in an accident often prove more injurious than the accident itself. Firedly, many people are unable to fight against possible pathological system, because they hope to derive a personner income from the accident. That these psychological moments play a chief part in the camation of traumatic neurous had long been recognized by Strümpell, especially as regards the wish to acquire an annuity; later on, Jolly, F. C. Müller, Laucratein, O. Einoranger, F. Schultze, Mittelbüsser, and others curessed the same view. It is particularly in Germany that this question plays no great a part, on account of the Law of Compulsory Insurance against Accident. The crael fact of being driven to work often enough restores a man to health when he has been injered in an accident, but the possibility of obtaining an minuity without working for it diminishes the desire for work and the capability of carrying it out.

But hyproxism has thrown more light on hysteria than it has on neuroses of traumatic origin. I have already mentioned (p. 303) that Milbius considers all those bodily purbological changes bysterical that are caused by ideas. In recent times other authors also have attempted more and more to put hysteria on a psychological basis. When one reads the works of nutions like Mobius, Clurcot, Haliparis, Eulenburg, Crocq. and others, it is not difficult to understand how the investigation of aysteria has been influenced by hypnotism. Many of the authors who have recently studied this branch of the subject have put forward suggestibility as a common characteristic of bysteria and hypotons, which it generally taken to mean that hysteria is characterized by anto-nuggestibility, and hyperson by external suggestibility. Of course it must not be assumed that the exclusively psychological size of hyperia is the only correct one; that is a point which cannot as yet be decided. Hot there is one point on which we may rest assured, and that is, that psychological factors play a great part in them diseases, and that their recognition will be executially advanced by the

atury of hyprotism.

Of course, this question possenses only a theoretical signs floance. When a trouble that is considered to be bruterical or neurasthesical is caused by some malignant psychic influence, we know how to combat it peophylactically and therapestically. Daily experience teaches us that an automgenial environment will cause or appravate a disease. There are lew people who are not affected by being constantly fold on all sides that they look ill, and I believe that just as much mjury is done by an accumulative mental process of this kind as by chemical powers. Suggestion produces unfering, just in the same way that it cures it. Doctors who are incapable of understanding mental influence anglet may easily cause unpleasant results by making throughtless remarks. Forely mentions a case in which a patient suffered from headache for years, became it was, as he believed, said of him when staffening from inflammation of the lungs accompanied by besdacke that this would never pass away. Whether or not the patient minunderstood the doctor is immaterial-the working of suggestion appears here. Forel succeeded by hypnosis and counter-oggestion in rapidly removing the headache. Luewenfeld mentions similar cases, for example, one in which a parient believed he was suffering from a severe heart trouble, because of a thoughtless remark made by his doctor. Brigelmann shows that many attacks of authors are coused by the patient's belief that he cannot breather the patient awaits with analety the moment for the attack to appear, and this assisty brings on the attack. A powerful diversion of the attention may sometimes suffice to minimis the intensity of the attack.

These are many cases in which it is uncertain whether the action of a remedy is suggestive or somatic, and it is the same with the pathogenesis of certain discuses. Some doctors favour a suggestive origin, others a somatic. For some years past attention has been drawn to the connection between affections of the store and certain phonomena presented by the words. Some say that road treatment influences mentionation by suggestion, and others oppose this view. Even if we assume that the action how takes place by the way of natural reflex paths, and that the process should be distinguished from suggestion, the possibility still remains that auggestion has a

great influence.

Hypnoxism has also thesen light on the secure of many

idiospeciation, for such at times arise from auto-suggestion. There are people whom coffee does not constitute but purget, and patients on whom drugs and other remedies have the contrary effect to that expected. A lady who was given bromide as a sedanive, remarked: "Strange, I've had that before and it only excited me." Morphia only increased pain in her case. Many of these cases are the result of autosuggestion, and hypnotism in giving us the key to a large number of inflowercasies has at the same time taught as many an important lesson. But we must, of counc, refrain from ascribing every idiosyncrasy to asso suggestion, became idiosynerasies may depend on purely somatic conditions. Many people suffer from urticaria after eating crab; but they also have unicana when they do not know that they have had any crab. Naturally, we cannot, even in the present day, invariably decide whether the idiosynerasy is of mental or

physical etigin.

Although there are many points on which we must still remain in doubt, hypnousm has put a check on exaggerated notions of morbid anatomy as a cause of disease and given freer scope to the neglected study of diseases of functional and mental origin. We must certainly take up the position that there is no disease and no subjective trouble without an anatomical substration. But we must not forget that the latter is in many cases so fine and so unstable, that not only are we mable to detect it post-sources, even with the help of the interescope, but also it is impossible for us to form even the slightest notion of the nature of the abnormalty without getting lost in a made of fruitless hypotheses. We must bear this firmly in mind if we wish to understand what hyperein has done for us. It has taught us to diagnese functional disease in cases where there was formerly a tendency to assume the presence of stable morbid anatomical changes. We now know that, where formerly organic disease of the heart or stomuch was suspected, such disturbances are after enough of a functional suture, and very frequently of mental origin. Hypnotions has therefore greatly improved diagnostica.

We have seen what a source of error the action of suggestion has proved in medical investigations. This fact brings us to the importance hyperotism has acquired in the study of the history of medicine. How are we to explain the fact that so few of the remedica that played so great a part in old books on medicine are retained in the modern medicine-chest? We need not go luck to Hippocuses and Galos, but mosely take up a medical book of the beginning of the nineteenth contary to note how the remedies of former times increat us to-day as curitairies. Ought we to assume that remedies which were formerly effective have movedays lost their power? or that diseases have undergone a change? Is it not much more probable that our colleagues of former times made the same errors of observation that we are vill apt to make? There are two sources of error that recur at all times, the one consists in ipsoring the appartaneous case of disease and leads to an exaggerated value being placed on remedica, the other in overlooking the action of suggestion and ascribing the good results obtained to chemical and physical action. In many cases the noselty of a drug or treatment provides a stimulathat incomes the action of suggestion. There are certain diseases whose symptoms recur from time to time-hysterical headaches and paralyses, for instance—in which a remedy that sensowed the morbid symptom the first time it was applied proved a failure when that symptom recurred. The shumon of novelty, which can only occur when the remedy is changed, was warring. There are many cases afferting both seves in which this may be observed, and not marrily in those in which we are accustemed to assume hysteria. That which here applies to the infimidual holds good for medicine in general, because anything to which we are unaccustomed makes a greater effect than that with which we are familiar. This explains how many a remenly soon becomes forgotten because it has fost its suggestive power. At one time women were castrated for hysteria and in many cases obtained temporary relief; at another, metallo-therapestics was in great favour; then this or that drug had its day; at one time nervestrotching was recommended for triles diversity, later on treatment by suspension. But for all such cases the suggestive action that attaches to a novelty provides an ample explanation. We can thus understand that a drug comes into vogue when it conveys suggestion. But it also inappers that a remody that has long tions forgotten will later on regain its old officary, provided it again courses the impremien of novelty. This also enables as to understand how many a remedy that has long disappeared from the medicine-thest again comes to be recommended. It operates like a new drug because its existence was forgotten.

If we turn to the history of medicine we find, to mention only one example, that many of the marvels neverlays attributed to organisticately had already been observed long ago when organisticately was employed in a much simples masser and animal substances were used as remedies without the intervention of the chemical factory. I need only mention the sensent that of old attributed to the vaginal discharge of a mare that was horseling as an approximate, concerning which thus Magnin gives many instructive examples in his work, Die Polymarities.

I have spoken of the stimulus of novelty. To avoid any toisunderstanding, I must make a few additional remarks on this question. When it is not clear whether the action of a remedy is mental or physical, it is sometimes aircaned that mental and suggestive action should be considered excluded when the action on the same individual is invariably the same. This cannot be explained by suggestion. It may possibly be assemed by some that a remedy which acts mentally very soon disappears from the medicine-chost, and that this gives us a kind of test by which we may decide whether the influence is mental or physical. Such a view is, however, wrong. Even if the stimulus of novelty is essentially a mestal moment, it is not the only one in question. There may be cases in which the use of a drug is so closely connected with its suggestive action that the latter becomes a constant phenomenon of its exhibition. But the same phenomenon is observable in the psychology of crowds-e.e., the phenomeron presented by the eround in analogous to that presented by the individual. A remedy may, therefore, under certain circumstances retain its efficacy, and that, too, without any fresh stimulus of novelty, for a long time, not merely for years but for decades and centuries as well. We can see this from the length of time the temples of Asculapins flourished, and also from the fact that even in the present-day shrines passessing minaculous springs are visited by pilgrins year after year for decades.

Hypnotism has, moreover, become of great importance in the cruscal examination of charlatanism, and here again because it has taught in the true significance of suggestion. People were formerly only too fond of calling every case of improvement reported to be due to the manipulations of a charlatan, a swindle; at the most it was occasionally admitted that a charlatan might possibly produce an effect on hysteria

by mental means. Hypnotism has shown us that is other cases leades those ordinarily termed bysterical, symptometic improvement may be obtained by svental action, and that this occurs even when progressive organic diseases are concerned. Recognition of this fact has thrown a new light on charlitantim. But it is particularly on the question of curative magnetism, a branch of chiefstanism, that bypnotism has enlightened un-By presenting the attention doctor with psycho-therapositics, and thereby rendering it possible for him to be speciesful in cases in which potients formerly had recourse to the charlatan, hypnotism has made the fight against quackery easier, This fact must not be underestimated. First and foremost, hypnotism has given what O. Binswenger calls psychological guidance to medical thought. There was formerly far too great a tendency to search for a material focus of disease for every disorder, and when that was not found to put the trouble down as unimportant or exaggerated or even to lying. And the patient who knows his doctor doubts him feets injured by his mistrust, "he turns his back on him and seeks help elsewhere, only too often to become the prey of mesempulous adventurers who make the most they can out of the weakness and helplessness of the sick and their need of practical assistance." The more doctors learn to think psychologically the less likely will they be an fall into this error, and they will thereby be rendering a great service to their patients. For although the mental influence of a charlatan may sometimes benefit a patient, that is nothing compared to the dangers of quarkery. The possibility of a person's health being improved by psycho-therapeutic means cannot make up for neglect of the distriction (Lobedank) and omission of the necessary physical methods of treatment; and this is what almost invariably happens where charlatanism is concerned.

Hypnotism has also shed light on many a superstition in the same way that it has on quarkery. When we find that in some parts of Germany the superstition obtains that incommis can be presented by placing one's shoes with the toes towards the bed, or by leaving two peta turned upside-down on the table (Wuttke), we can well conceive that this may set just in the same way as suggestion does. The study of the action of suggestion has also thrown fresh light on medicine as practiced by uncavilized peoples. It enables us to understand the effect produced by the medicine man, and the study of hyprotism has become of importance to the undent of ethnological psychology, as Bastiss, Stoll, and other ethnologies long ago acresised it would.

Those miraculous cures which so often occur without the intervention of a scientifically trained doctor or a professional charlatan belong here, such, for instance, as the cures observed at Louiste and similar places. Medical men usually object that such cures only affect hysteria, and it must be admitted that the wast majority of the cause that terminate specesafully are hysterical, but not all. When we read reports from Louides impurially, such, for instance, as those contained in Beistane's book, Great Cares at Lourder, we find a large number of cases that we have no sight to put down to hysteria. That book recounts mineralous cures at Loudes of long troubles, of tuberculous inflammation of the joints, of wounds, of gastrie ulcers, of eye-lineases, of cases of deafness and deafmeticus, as well as of all kinds of paralyses, internal inflammatory processes and nervous diseases. In going through these cases I have become more and more convinced that many were real instances of severe organic disease in which the patient's condition was improved by psychotherapeaties. I must here refer the reader to the remarks I made on this question on page 374 et my. Believers in Loundes certrialy. ascert that otherwise incurable diseases, such as cancer, are enred there; but what I have read of the medical history of such cases has given me no scientific ground for accepting the diagnosis as accurate. On the contrary, the superficial manner in which the diagnosis is often arrived at is very striking to the critical reader. Charcot admitted that organic lesions had been cared at Lourdes, but be thought that this was only so in the case of organic changes of hysterical origin, the cure of which by psychic means can be explained. He mentioned, among others. Fowler, who reduced tumours of the breast by mental influence, but he considered such turnous mosely trophical disturbances of hysterical erigin. The supposed miracles of Lourdes can be easily undentood without giving so wide a meaning to hysteria as Charcot did. In many cases it will be found that the remarks I made on quack-diagnosis on page 319 hold good.

When we take the foregoing considerations into account, hypnotism acquires great significance in its bearing on the history of medical culture. For there have at all times been

jest such miniculous places as Leurdes is to day. Ancient medicine, which was so much in the hands of the priests, is full of records of intraculous mental influence of this nature. The temple sleep of the old Greeks and Egyptians had much in common with hyperotism. In Greece it was in the temple of Æscularius that the sick lay down to sleep and were told in their dreams by the god of the remedy that would care them. It is easy to understand the auto-suggestive influence of this temple sleep. And at other times certain human beings have had the same senown for curing the sick as was here ascribed to the Delty. I may here mention the well-known Genatralon, whose cures astonished all England in the seventogeth century. He healed by laying on of hands, but seems also to have used verbal suggestion. I may mention, also, Gassier, the celebrated exercist, at the end of the last century, The reports make it clear that Gastner used suggestion, for though he speke Latin it is evident he made his patients understand him; nobody misurderstood his famous "Cosset"; they knew that the mulady or the pain was to stop. I find in Sierke that Gausser occasionally sent a puriont to sleep by command. He told her to walk when she was asleen, when to wake up, and in fact produced what we should at present call a regular hypnosis. Lichnenberg reports that daning the eighties and nineties of the eighteenth century a certain Frau Starlor in Osterode created some excitement by performing cures through stroking and touching the patient's body and by so-called charming. I may further mention Prince Hobes-lobe, a Catholic priest, who aroused much attention by his cases in Bavaria, after 1821. The meamerists perkoned him a magnetizer, but others merited his cures to religious faith. One school of mesmerists, that of Barbarin of Ostend, took up a peculiar middle position. Barbaria maintained that the influence was purely a spiritual one, and that the right way to induce sleep was to pray at the patient's bedside (Perty). Many modern adherents of magnetism hold the same views; Timmler, for instance, thinks religious faith valuable and necessary for obtaining the result. This tendency of animal magnetism brings us to one of the secent forms of epidemic mental disorder that half from America, viz -- high-healing or

<sup>\*</sup> Lichtenberg writes the name "Goesteske," as flow his authority Enthers Broke. Others write a "Greatris,"

Christian Science: A Mrs. Eddy passes as the foundress of this exced. The male, or female, patient is told to six in a cluir and think that has or her, illness is due to sin, that God is averse to sin and will buil those who believe in Him. The faith-healer sits on another chair, and is supposed to concentrace for mind on similar thoughts. Faith-healing is also used in distant treatment. There are many analogies for the latter, Well mentions the case of a doctor who lived in a large town in Saxony, and who cured many partents by strictly ordering them to go to bed at a certain hour, at the same time telling them that they would puspire professily and that this would expect them.

Numerous other cases that belong here could be mentioned, and they would show that many a phenomeneo observed in the domain of medicine has first had true light thrown on it by hypnotism. With every one of the workers of minacian of whom we hear from time to time—Pastor Kneipp's is a recent case—mental action plays an entraordinarily great part. Science, doctors, and the sick have long enough suffered from the mental factors in disease being undersated.

z. Psycho therapeuticz.-I have shown in the foregoing that, agair from the practical uses to which it may be put, hypnotism has become of importance to medicine, inasmuch as it has shed light on many branches of theoretical medicine. But this does not exhaust its importance in medicine. It has, on the contrary, acquired an almost fundamental significance in a certain direction by beinging into prominence a new branch of the healing art-vir., psychotherapeutics, and although this branch has not yet attained full development its progress has been so great that its extraordinary importance is recognised. In this respect hypnosis has become of much greater importance to medical practice than its direct application would justify. We must carefully distinguish between psycho-therapeutics and hypnotic treatment, for the latter is but a small part of the former. But hypoctism has given us the key to psycho-therapeuties by showing us how powerfully mental influences may operate on human beings. Appreciable light was first shed on the importance of mental influence by hypnotic experiments; for until susceptibility to such influence had been demonstrated in the case of hypnotic suggestion, it was not understood that many forms of suggestion prove effective even without hypnosis,

General suggestive therapeuties was thus evolved from the method of treatment by means of hyp-soric suggestion. But it was gradually recognized that so far from suggestion exhausting the possibilities of psycho-therapeutic influence there are other mental semedies to be considered. The psycho-thorapeutics of to-day is a development of suggestive therapeutics just as

the latter is of hypnotism.

It may, perhaps, be here objected that able practitioners employed many and various forms of mental influence long before modern hypnotism was known, and that the latter is therefore of no such great importance in psycho-therapositics But to this we may reply that modern psycho-therapeuties, which is based on hypnotism, has made us acquainted with a whole series of mental influences of which even capable gractitioners of former days had hardly any knowledge. Apart from this, modern psycho-therapeuties would not have the employment of mental influence confined to a few specialists, but is more concerned to see it made the common property of all practitioners. Finally, it must be added, many practitioners who formerly used psycho-thempeutic methods did not really understand what they were employing. They assumed a chemical or physical action in the case of many remedies where the care was scally due to mental influence. Other cases we read of belong more to the domain of the marvellous, as, for instance, that in which a doctor used a thermometer and the patient very soon declared himself cured, because he helieved the thermometer was the remedy. At all events there is a considerable difference between the occasional use of a mental remedy and the scientific investigation of psychotherapeuties.

Nevertheless, we must admit that theoretically, at least, psycho-therapoutics was by no means entirely ignered in the past. There are infimations of it in the works of Hippocratics, Celsus and Galen. We find advice of a psycho-thompestic nature in Senece, and as a general rule in the Stoics; also in the writings of many other philosophers of antiquity. The teaching of the old Stoics that physical allments should be combined by the soul, in particular, persents ideas that contact it with psycho-therapoutics. Later philosophers, also, of whom I may mention Descartes—I shall come back to Kant later on recognised the importance of sternal processes in the case of disease; so also many theological authors. Similarly, the

Anthine and Jewish doctors of the Middle Ages, and also the school of Salarno, often took psycho-therapeutics into account is their works. Coming to later times, I may mention in addition to Boerhaave in the beginning of the eighteenth century, Alberti, who taught formule medicine in Halle. In neveral dissertations for the doctor's degree, which engrated from his school, and which were for the most part written by himself, divers branches of psycho-therapeuties are discussed. I may mention Papa's distortation The Therepia merbane mattall, which appeared in 1714; and also Süssenhach's De Therapia imaginario, and Moodon's De Valetedinariis inorginarous, both of which were published in 1721. Several works of a similar nature also appeared about that time, written by Hilscher of Jena; for instance, De Strategessolibus medicis, 1735, and Dr Animi Laboribur, ogregio amitatia processo, 174s. Mertion must also be made of a dissertation by Lemmer of Langguth's School at Wittenberg, De Assess amiliate practice alone custode options, 195%; likewise of a work by Ganis, De Regimme mentis quod medicorum est. 1753. In spite of the growth of ratural philosophy, the end of the eighteenth century produced many investigators in the sloresin of empirical psychology. Both medical men and philosophers did much at that time to promote psychotherapositic investigations. I may mension C. W. Hufeland and Kent. The latter in his well known work, Von der Markt des Gewäthe, etc., which appeared at the sud of the eighteenth century, showed that he was not merely a speculative philosopher. The Magazin our Erfahrungsweleykunde, which was published by Karl Philipp Morits, is a treasury of information on individual psycho-therapeutic observations. The psychic treatment of mental diseases, which began to be recommended towards the end-of the eighteenth century, shows that psycho-therapouties was by no means entirely unknown at that time, and those investigators who took up the inquiry into enimal magnetism about the year 1800 note oridently acquainted with the value of the power of the imagination, Bailty, for instance, in 1754, meniod Deslor's phenomena to the power of the imagination, and about the same time John Hunter expressed similar views on animal magnetism. Even many believers in animal magnetism, such as Kluge and Eschenmayer, were acquainted with the effect produced by the imprination.

Throughout the whole of the nineteenth century, and down to the present day when the study of hypotoism has directed general attention to psychotherapeutics, there have always been able individual investigators who have pursued their own course without regard to the teachings of arbolastic medicina or the opinions held by the general body of medical men-To make an arbitrary selection from the middle of the nineteenth century, I may mention Wilde, who in 1830 recommended a little wholesome dissipation as medical treatment; Brigham, who wrote on the influence on bodily health of intellectual culture and the exercise of the mental faculties; Trailer with a dissertation, De Cara psychiae; Domeich, who wrote a treatise entitled Die probiodes Zustrade, ihre orpanticks Vermittleng and the Wirksay in Ersengung birper-Moles Reautholes. 1 further mention Moore's book, The Power of the Soul over the Body; Sadles on The Power of a Dutor's Fernmality in Allerinting and Coring Discour; Padislean's excellent little work, Dr & Millione marab, 1864 ) and finally that profound and exhaustive work, The Influence of Mind on Body, by the English alienost, the late Hack Tuke.

Although there were from time immemorial individual investigators who recognised the value of mental influence, no organic connection between psycho-therapeurics and middcise was thereby created. It was the study of hypostism, which since the rise and progress of the Nancy school had shown the value of suggestion either with or without hypnosis, that first called general attention to other remedies of a mental pattere. No matter how much one may be opposed to hypnotism itself, the fact that it has led up to modern psycho-therapeutics and caused the latter to be incorporated in medicine cannot be denied. We are compelled to arrive at this conclusion even when we admit that other authors have developed their views of psycho-therapeuties independently of hypnotism, for they, also, were not recognized until the importance of mental impressions had been demonstrated by means of hypnotism. Before that, they were ignored by official science, became they had strayed from the beaten track; and their works were more frequently considered curiosities than sciontific productions. I need here only recall the case of Roughbuch, who endeavoured to develop therapeutic views to a great extent in opposition to the theory of suggestion, but who nevertheless admitted that the incentive to his studies

came from hypnotism. At all events, it is almost entirely due to the general interest in psycho-therapeutics around by hypnotism that the psycho-therapeutic works of Rosenbach and others were recognized. This is shown by the numerous works that have appeared on the influence of the emotions on the body—for instance, those of Mosso and Lahmann, and more recently, Paul Cohn and H. Berger. It was already known how much monstruction is influenced by excitement and lear. Many of the effects produced by the imagination were also known, such, for instance, as imaginary prepriately. But there was nothing systematic in all this; the occasional observations made were dispussed and contemptously referred to cases of hysteria. It was too much the custom to look on a case as merely intensing and mre, not as a clear indication of the existence of a great branch of their position.

A comparison between modern works on nervous diseases, hysteria, and neurastheria, and those that appeared five-andtwenty years ago at once shows how the value of psychotherapeutics has risen in medical estimation. Let any one who thinks that hippoteum his opened up no new paths just take up one of the medical test-books of those days, and he will find as far as hysteria is concerned, to say nothing of other diseases, all kinds of therapeutic measures thoroughly discossed, but that the most important-sic, mental treatment, though not entirely ignored, receives but cursory mention. He will find exact instructions for the application of leeches to the sortio sugments, what waters are to be drunk, what bothed in, and what form of electricity is indicated. But that all such matters are of insignificant importance in comparison to mental treatment was unknown, although the importance of mental remedies was occasionally admitted, as in the case of Inysteria. As far as diseases are conclused-1 make no mention of mental maladies, which only received a place in psychotherapeuties at the commencement of the nineteenth centurytoycho-thempeutic influence was almost totally ignored. It must also be admitted that many new branches of psychothesapoutics are not directly linked to hypnoxism, though they have been indirectly influenced by it; to such belongs, for instance, attendance on and care of the weak, which is a psychotherapeutic factor of the first coder. But admitting eyes this, it cannot be denied that hypnotism has exerted a

thoroughly fundamental influence on the development of

psycho-therapeuties.

That it was hypnotism that essentially gave the impulse to the study of modern psychotherapeutics is evident from the works of the chief investigators of the latter subject. The very first among them-even those opposed to hypocol-therapoutics, as, for instance, Rosenbach, Dabois, and Marcinowski-have unhesitatingly admitted that their incentive to the study of psychochempentics was due to hypnotism; and it was from hypnotism that I myself first of all learned how extensively we can influence human beings by means of psycho-themperatics. In cases in which for some reason or other hypnosis could not he induced, I have sought, and often found, a substitute in some other form of meetal influence. O llimmanger also, who is one of the opponents of hypnosi-thorapeusis, admits the importance of bypoutism in this respect. He certainly slio thinks that the hypmsi-therapoulists, by holding that hypnosis is the only recognized branch of psychotherapeutics, have hindered the development of the latter. It must be admitted that there has been both congression and one-sidedness. But any one also biames the elaborators of hypotosisis in general with this misses the chief point; for as long as hypotests was almost the only known hearch of psycho-threapouties, investigators of hyportism naturally considered it the heatt of psychotherapeutics. To my there is anything blameworthy in this would be like reproaching the men who introduced untisepais with inving delayed the development of usersia, for the latter is the outcome of the former. O. Binowanger las, infeed, a strange way of appraising the value of services rendered to science. The man who originally prepared and recommended a seriou for the treatment of a particular infective disease is not to blame when his serum is improved and perfected later on, for withour the original preparation there could have been no improvement. To amphody who thinks with O. Binewanger that he is justified in attempting to minimize the importance of hypnosis in such a manner I put the following question:-Where were these critics, such as Binawanger, when Ewald said that hypnotic treatment should les left to tailors, cobblers, and shephend-boys? Where some they when Ewald declared that magnetive treatment oversteps the bounds of medicine and trenches on the field of povehology? Exceld distinstly opposed probabilized to welfail

continues, and the adherents of the Nancy school of hypnotisms alone protested. Yet it was particularly O. Binoranger who held his peace; he did not declare that psychology must be made as much to medicine as physics and chemistry have been, and he failed to point out that Ewald in his assertions has shown a total misconception of the duties of a doctor and

the problems that face medical science.

I take this opportunity of mentioning a few works on psychotherapeuties that have appeared in recent times-i.e., since snoders hypnotism has played a part. Some of them are but little known, and for that reason I think they deserve some alight mention. It is not claimed that the list is by any means complete, and I entirely count those works in which hypnotism is the main theme and psycho-therapeutics only a side issue. I mention Alphandery's thesis. La Thirsteations movale et la Suggestion, Paris, 1885; Lindsay's every in the Glasgeer Medical /savas/, 1386, un " Faith in Relation to Medical Treatment"; and Charcee's La Fee gar guerit. In 1891 Taylor wrote a week entitled The Moutal Element in the Treatment of Discuss. F. C. Meller's Manufach der Newrordenie, 1843, contains a detailed account of the "Mental and Suggestive Treatment of Neurasthenia" by Schrenck-Notzing. I may also mention l'aurent's La Médicier des Awes, Paris, 1894; and from Germany, Hallervorden's Abhantlengen sur Serlengewarbeite John, which appeared #898-97. In a Boodeaux thesis, #895, Bellet discussed The Therapoutics of Imperative Mean; and in 1902 Arthur Hermann wrote a thesis on The Suggestive Tensferent of Henducke in School children. In 1801, Paul Hartenberg discussed the psychotherapeutic treatment of timidity in a monagraph, Les Tilusses. Zhinden published a small work, Neuranthéese et Psychothirapie, in 1902, and also another that belongs here, Constation symbologique du Nibrouling. The psycho-therapeutic treatment of The Tits has been exhaustively treated by Meige and Feindel in a monagraph. Among other authors to be mentioned are Krohl and Danis, also Oupenheim with two works, Zee Progress and Therapie der schweren Newsenn auf Psychotherapeutichen Bricke.

I now proceed to mention some of the larger works specially devoted to psycho-therapeutics, taking first of all Rosenbach's Algeria. Zantinde and thre psychicin Echandhog, a book of which the first edition appeared in 1897 and the second in

1903, and which is possibly the best and most thoughtful work we possess on psychothempeuties. In 1847 Lowenfeld published his Truthook of General Psychotherafeatics, which contains a series of excellent essays on medical psychotherapeutics. I also mention Vogt, who has given a more theoretical than practical review of psychotherapeutics, somewhat in the form of a programme, in the Zettuhrift for Hypastinave; further, Zieben, who has given advice on practical therapeuties in the Lehrbuch der allgemeinen Theorytis, edited by Eulenburg and Samuel, but without exhausting the whole field of parchotherapeuties or treating it completely. In the year 1904 as exhaustive treatise by Canzuz and Pagniar appeared entitled, Indicated of Psychethicapie; it contains the secords of a series of carefully-observed cases, which show the value of psychotherapeutics, in addition to which it includes some very next historical comments on psychotherapenties. I must also mernion Dubon' book, Les Psychonirous, a new edition of which appeared in 1905, as well as a German translation. It contains a number of useful bints. It would certainly have been better had the author paid more attention to the earlier works of other writers, especially Resembarh, which contain much that Debois has to say, but expressed in a better form. Evidently Dubois was unacquainted with Rosenbach's works. This is also the place to mention Earlie's book, Die Kenubhafte Willeuschwische und die Aufgaben der vraichlichen Therapie. that appeared in 1504; and, futher, the calmistive chapter on psychotherapeaties in O. Binswanger's work, Die Briterie, also published in 1984. I must also mention Marrinorski's book, In Knopf we grands Arrest, 1905; and Levy's work, L'Education rationalle de la Valonti, which was widely read in France. I myself have thoroughly discussed psychotherapratics from the standpoint of ethics in my Aeralishus Ethik, 1402, and have also contributed a compostensive sketch of psychotherapeutics to Eulenburg's Emphispadiales John-Auctor, 1806.

Finally, there is in connection with then branch of the subject a whole series of more or less scientific books that have recently appeared in the market in various countries—Germany, France, and also in America. I shall not mention them separately, but will semark that they are for the most part of no scientific importance. Some of the authors do indeed attempt to group the problem after the manner of Feuchtersleben in his Distract for Sook, but they never come up to the standard of their prototype.

When once the importance of hyperetic suggestion had been established by hypnotism, an incremed equificance was attributed to suggestion in the waking state, and efforts were made to employ at in therapeutics. An intermeditry is, however, necessary to being it into play, and for this purpose all kinds of means can be employed. Ziehen recommends that we should, as far as possible, choose such as have a physical action of the nature indicated; and undoubtedly this advice is sound in the main. Many authors have thought out and recommended special methods of engrection. Electricity has been used for this purpose for a long time past, and has necestly been specially recommended by Abschul. Lock recommended that in cases of hysterical aphonia the patient should press his epiglottis down with his forefinzer. The means employed for the suggestion must be suited to the individuality of the patient. In one case it will be found secessary to use electricity, in another pharmacoutical preparations, in a third a journey to a watering-place will be indicated, and so on. A doctor who had a large country practice was in the babit of adding violet-symp to certain drugs, because the "beautiful green medicine" always gave special satisfaction. A purgent odour may set in the same way as a striking colour, and the high repute in which associals. so long stood was essentially due to its stink. The price of a drug may also play a part in suggestion, and I think that the representation of yohimbin was chiefly due to its high price. In other cases, strong semary stimuli, such as the faradic brush or the application of moss, have a suggestive action. Even the fact that the treatment is complicated, as in the case of some lights-therapoutic "cares," may help to convey the necessary suggestion. It is occasionally desirable that the patient should have no notion of what drug he is taking. For nitance, a patient who has taken antificien without deriving any benefit from it, who even thinks it made him worse, and who, by annountmention, easily sets up unpleasant nearlts when he knows that he has been given antidebrin, will take it without ney supleasant results if it is prescribed as acetanelide. Many a doctor is a master in inventing all kinds of new ways of beinging suggestion into play, whereas others are invariably

satisfied with one and the same validic. Remodies that many a doctor does not consider professionally correct-for instance, a journey to Louides or some other thring may prove of good service in nonveying suggestion. Suggestion can be made just as effective by the personality of a physician whose every word acts as a suggestion, became of the trust placed in him, as by the definite instructions he gives. Moseover, in many cases much talking is superfluous, even injerious. It is cometimes erroneously assumed that the patient must be talked into believing in the efficacy of the remedy prescribed. This may, of course, be true in many cases, but there are others in which the suggestion affects the patient more readily when the remedy is prescribed without any remarks. The old truth that empicion acts as an inhibitant in very applicable to suggestion. We must here include many hysterical cases with a tendency to suggestion in which a kind of courses suggestion follows verbal suggestion. On this point I refer to my remarks:

on hypnotic thempentic suggestion (page 318).

I take this opportunity of pointing out that it has been proposed to make the same use of ordinary sleep as of hyperonia for the purpose of suggestion therapeutics. This proposal was specially brought forward by Sante de Sanctis, who, however, distinguishes between suggestion made in ordinary sleep and when the latter has passed into the hypnotic condition. Certainly de Sanctis does not restrict the method merely to suggestion; on the contrary, he recommends that all kinds of sensations should be arouned, and even chemical substances be used. In the same way he thinks it right that Coming's proposal should be further investigated, and music played in certain cases of neurosis both before and after the patient falls acteep. Sante de Sanctia thinks that dream-thompeuties would benefit nervous and psychopothic children, and also hystericals -for instance, such as suffer from hysterical paralyses; it should also be of use in those states that he calls dreampsychoses. Indeed, it should be as easy to induce the desired consumon in a alcoping person as in one going to alcop. I must here refer to what I said on page 378 concerning artificial dreams, which caturally play an important root in respect to this proposal.

Our knowledge of the importance of suggestive therapeutics is ementially due to hyperetism. But just as suggestive therapeutics has proceeded from hyperetism, so has psycho-

therapeuties processed from suggestive therapeuties. But this historical development has occasionally caused a confusion of ideas. As I have already mentioned, hypnotic therapensis was tong supposed to include psycho-therapeusis. Such a mistake should not be made in the present day, and Lerwenfeld has therefore very properly blamed Lloyd Tuckey for calling his text-book of hypnotic therapeutics Psycho-theogeneits. In the same way suggestive treatment is often confused with psychothempeuties. Even doctors engaged in this branch easily make this mistake. Font has reported a case from Designing's Clinic, in which suggestion was applied in the waking state to. a twelve-year-old garl suffering from contraction of both legs. The child was rigidly isolated throng the treatment and threatened that she should not see her parents again until she could walk properly. Although it is hardly possible to exclude the action of a suggestive factor in this case, the treatment cannot be described as suggestion in the waking state, for threats and isolation differ considerably from suggestion.

We shall now see that there are other hunches of psychotherapeuties that must be distinguished from suggestion.

First and foremost comes the instructional and explanatory system of insatment. It has received the special advocacy and support of Rosenbach and Eachle, while Marcinowski, Dubois, Oppenheim and others have lent their sid. The method consists in explaining to the patient the nature of his complaint, the treatment to be pursued, and everything connected thosewith, in the hope of thereby conducing to his care or at least improvement. I will quote one of Rosenbach's examples. A mm who thinks he is suffering from heart-disease, because of occasional irregularities in his pulse, should be told that such irregularities occur under normal conditions and may be caused by interne self-observation, change of position, or even some slight mineular action. It should be explained to him that a doctor prefers to examine the frequency of the pulse or respiration when the patient is not noticing, lest some change should take place in these functions. To give a few other examples. The dread of some hereditary taint has reached an extraordinary pitch is the present day, and it is certain that this dread of heredrary taint does more harm than the taint itself. Such nationts should be informed that nearly every great family bornts a disease that may be termed heredisary, more parricularly since the number of such hereditary diseases has been

found to be continually on the increase. Such timorous persons should, if necessary, be referred to works presenting the opposite view-for imtance, to the works of Jenny Kolley, who has proved that there is more likelihood of inhunted tains existing in the case of healthy people than is generally assumed, that the argenerative farner is sometimes extraordinarily strong, and that many diseases supposed to carry as hereditary tains are of no importance whatever in that respect. A recept work of Wagner's may also be referred to, as its author has arrived at similar conclusions. In other cases-when, for instance, a patient thinks he is suffering from long trouble because of pains in the chest-it should be pointed out that it is the musteles and not the lungs that are affected, and proof of this should be given by showing that the muscles are painfully sensitive to even the slightest touch. Many a person who imagines that he is suffering from serious stomach trouble and that he cannot digest anything, can be easily freed from apprehension by washing out his stomach and thereby proving that his digration is normal. Romenbach pointed this out long ago. Of course it is relatively easy to give this satisfaction when the patient is a doctor, but even in the case of a laymen it is sometimes. possible to demonstrate the error by comparing the contents of his stemach with those of a healthy man. It occasionally requires an educational process to induce a patient to submit to treatment. Many people erroneously consider their malady incurable, and refine treatment on that account. Berillon and Jennings have pointed out that many morphinists refuse to submit to treatment because they are consinced that their affliction is incumble. It is semetimes even necessary to explain the theory of his disease to a patient, so that he may help to bring about its cure. Many cases of sexual perversion can be cured, and some percented, by giving the necessary evolutation. This, of course, refers particularly to the time when the sexual impulse is will unfifferentiated. As Max Dessoir has shown, perversion appears in the earliest days of palienty and often leads to "perverse" tendencies, but the latter disappear altogether when taken in time and properly treated. It is of the greatest importunce that such young people should be warned against wretches who would lead their astray and endearour to make them believe that their persurse tendencies are incurable. For this purpose it is sometimes necessary to explain how sexual pervenion comes

about and all that appertains to it, if the eletim is to be rendered amonable to medical advice. A similar method of procedure is necessary in some other cases; Opposherm, for instance, was only able to make a sufferer from advice algoral follow his instructions after he had explained the origin of the disease and the nature of the underlying assetal factor. Sometimes it is as well to convince the person who comes for advice that he has nothing the matter with him. There are patients who imagine they are impotent merely became their powers are not the same as others. It is beneficial to let such people know that men boast of powers they do not possess. Similarly, semilive young men who have never tried their prowess on ladies of easy virtue should be tweght that that is no remon why in married life they should prove impotent in the arms of a modest woman.

In other cases it may be essential to prove that the disease from which the patient thinks he is suffering-mancer, softening of the brain, spinal disease, kidney disease, etc.-does not exist. There are times in which such fears are spidesnic, this is especially the case when a disease is the subject of much distustion in the papers because some public person is suffering from it, or that medical investigations or some other elicumitance have led to its discussion. When the Emperor Frederic was suffering from cancer, thousands of people went to their doctor to know if they were not developing cancer of the laryou. Many of them were, of course, suffering from some organic affection of the laryns, such as catasile, but very many others had not even that trouble. The same thing is otoervol when an epidemic like cholera to reging; people take a harmless duerhors for the severe disease cholers. We must also include here people who think they are suffering from a disease because they have misunderstood the description given of it. This fear of charact frequently arises from reading pasty popular works on medicine, but it also happens to young medical students when they first bear diseases minutely described. The best method of splitting and curing such patients is to submit them to a scarching examination; that will consently satisfy them that their fears are groundless. This method does not, of course, succeed in serious cases; it is then necessary to leave it to the ingenuity of the doctor to devise some means of satisfying the patient. A doctor once took severe measures with a patient who would not believe that he

was not activing from hydrophobia, the doctor kisses the putient on the lips as a proof that he had no few of informa-

It wast be explained to patients who occasionally sufferfrom headachs or loss of appears that each things happen to the healthicat people and are of no importance. Special care must be taken to do this with patients who have at one time suffered from a severe disease and who dread its return every time any trouble seminds them of it. A patient who has suffered from alcomation of the atomach will generally be very frightened when he has a slight pain in the region of that organ. He should then be told that such pains are not as a

sule the result of organic clariges.

In many cases explanation should be directed to prognosis and therapemis. A patient who is suffering from a chronic disease should be told that it is seldom round spontaneously, and that these may even be exacerbations of the malady while the curative process is gradually going on. It is olden as well to point our these matters beforehand, so that the patient may be prevented from being frightened by anything that may occur and from drawing unfavourable conclusions therefrom. It is sometimes advisable to give the patient a proof that the treatment is doing him good -to show a diabetic, for instance, that the analysis of his urise points to a diminution in the excretion of sugar. This is calculated to make him more inclined to follow his doctor's provide in the feture. also sometimes be mecessary to point out to patients that the remedies they have proposed are meless, pertags injurious. For example, people who eafler from insumin should be told that the constant use of hypnotics is injurious and may set up a confition even worse than the less of sleep.

Of course, doctors who practice psycho-therapeutics must be as careful to avoid overdoing it as when using any other method of treatment. It is just this explanatory system of treatment that so easily gives rise to stock errors. Many a doctor thinks he is making matters clear to a patient when he is doing nothing of the kind. For this nesson I will point our an error that was formerly very common though it thus not occur so frequently nowadays. It should never be drammed into a patient that he is not ill because he has no organic lesson and that his molady is consequently imaginary. Folks frequently make such remarks; but a psychologically trained doctor should screpaliously avoid anything of the kind at all times. He should know that the expression "imaginary pain" is false. Such "imaginary pains" have been excellently compared with hallacinations. Now, we can say that the hallucinatory object is imaginary; but it is false to say the perception is imaginary; it has a central cause, whether the object is imaginary or not. Similarly, a pain that is felt in the result of a definite control process. It is a matter of indifference whether the central process is caused by a peripheral one such as a prick, or by suggestion by a spontaneous mental not. The pain easists in both cases, and is not imaginary. If in the latter case the patient were to refer it to an external stimulus he would be wrong. But the doctor must take the pain the patient says he feels to be real. To combat and remove such pains is just as much the duty of a elector as the healing of a wound. A doctor may be able to detect and explain the functional nature of a pain, and even trace it to its mental origin, but he should never say that it is imaginary. It may possibly not be invariably easy for him to avoid mittakes; for there are patients who think their disease is not understood when a doctor assistes them of its purely functional nature. A doctor must not only take into ronsideration the education a patient has received, he most also think of the degree of intelligence possessed by the latter. He must remember that a patient's power of thinking logically in influenced by disease in so far as the patient's own conclutions as to his disease are concerned. There are welleducated people, people who as a rule think logically, and who are yet unable to understand that a functional complaint is just as much a disease as an organic one, and may even bring about more orrious consequences than the former. Experience and fact are the best sids a doctor has for getting over such difficulties.

As years go on I am more and more convinced that eprightsens, truth and candour afford the less help a doctor can pive his parient, and that the reserve that used to be displayed in only too often inimical to the patient's interests. Even when me tell a patient truthfully that we cannot care his disease, the truth is often of use. Kant tells of himself that his flat and morow chest, which gave but little play to his heart and large, predisposed him to hyperhotochristic. He suffeced from cardine oppression, but the conviction that the cause of the oppression could not be removed noon made him cruse to

dwell upon it. "The oppression is still them, for it is carned by the build of my body, but I have mastered its influence on my thoughts and actions by distracting my attention from it, as though it had nothing to do with me." A man suffering from hemiplegia following an apoplectic fit, with no sign of improvement as time your on, will often be greatly benefited by a doctor who traches him to take no notice of the paralysis, provided, of course, that the chance of curing him is very small or ail. Such a method of treatment will be more advantageous to the parient than sending him from one expensive doctor to another or from this to that institution and finally landing him in the hands of a quack. When the chance of obtaining a cure is small, the question of expense is generally important, It is better for a doctor himself to inform a patient that he is scalening from takes devails than to let him be brutally told the truth by some one clac. It is just in cases of sinks that a truthful explanation lessens the patient's dread of his disease. Recent statistical investigations have shown that the average direction of life is not affected by locomotor staxy. There are cases in which the name of the disease terrifics the patient, and yet good may be done by explaining its nature; as, for instance, when a floctor explains that diabetes is an inclusive term and does not mean a definite disease, and that there are forms of dobetes which are in nowise dangerous.

It will be seen from the foregoing that I rate explanation and instruction very highly. But this must not be overrated as a curative factor, as some have done-for instance, Duboic, People forget that suggestion plays a great part in all explanations, and cannot be altogether excluded. The patient who trusts the doctor from whom he receives instruction and explanation is subject to the influence of that doctor's sugges-Much that Dabois and others put down to instruction is really due to suggestion. But apart from this, there are ones in which suggestion is more effective than instruction. Many forms of auto-suggestion belong to this category. A patient who suffers from diarrhum after taking black coffee may be relieved of this inconvenience by explaining that it is the result of auto-auggestion. In other cases counter-auggestion proves much more effective. Explanation will always improve the condition of a person suffering from imperative ideas. The putient clearly recognizes the foolishness of the idea, but is unable to resist it. When it is possible to induce deep

hypnosis in such cases good results can be more readily obtained than by instruction. It conceives happens that explanation given at a wrong time is absolutely disagreems. I can recall the cases of patients who were weined from the drug habit by sham injections—indifferent solutions that they integrind contained morphia. But when such patients are told the truth, they invariably return to their old habit. Ex-

persence, at least, shows this

Of course, many patients feel flattered when they are told that they will not be treated by suggestion but that their own intelligence, powers of thought and will, will be brought into Suggrative treatment usually appears emice to the patient, but his vanity is flattered by the explanatory method. Nevertheless I think there are many cases in which it is carrying suggestion too far to tell a potiers that he is being cured by instruction, whereas in reality the improvement in his condition is mainly due to suggestion. Unintentional suggestive therapeuties may comint in the suggestion to a patient that he is being cured by instruction and his own will. People who in the present day discard suggestion as a therapeutic method go too far. In the same way that Resentach formerly did, General has recently held up suggestive therapeutics as payable thirty in inferious in contradiction to people thirty in supersiver as generally accepted. Nevertheless, catchwords should be avoided, and it should never be forgetten that what is upposed to have been brought about by psycholidation untirease is often the result of veiled suggestion, the patient being convinced that his own will and intelligence have restored him to health

Of course we must make all possible use of every psychotherapeutic factor, especially of the explanatory method as I have described it. The last remarks I made on this subject were merely intended as a warning against exaggration.

I now come to the discussion of voltional themposities. This is oben confused with explanatory therapeuties, and even Rosenhach and Eachle do not make a proper distinction between the two. Although both methods are sometimes used together as "educational therapeuties"—there are many cases in which the patients can only be influed to carreise their will by first of all instructing them as to the necessity of this procedure,—they may be employed independently. As far as volumenal therapeuties is concerned, we must armember that

the activity of the will is of two kinds-the external or objective, which is shown in the external movements and actions that depend upon the will, and the internal or subjective, which can arbitrarily mouse mental processes, such as ideas, feelings, and emotions. Both the external and the internal activity of the will may excite or inhibit; the will can cause movements and actions, or check them; in the same way it can, within certain limits, arome ideas, feelings, and emotions, or suppress them. One part of volutional therapenties is, historically, closely connected with hypnotism, but some of its branches have developed independently. We come across the external activity of the will in the form of active mental gymnastics long before the days of modern hypnotism; and that, too, as a branch of physical therapeutics, although it might equally well be included in psychothurspenties. For instance, the attempts that have long been nade to improve the conditions set up by apoplexy by means of eventises really constitute an employment of the activity of the will. This branch of psycho-therapeutics has long bosn used for disturbances of speech following apoplesy, the patients being instructed to repeat tentences and go through other exercises. Whether the compensation produced is organic or functional in such cases -we are following Luciani's schemehas no bearing on the inclusion of this method of treatment in psycho-therapeatics. Moreover, hypnotium has not been without influence on the external gramastics of the will. The name of this branch of treatment is occasionally associated with hypnotism. Under the name of suggestion-gymnastics Lehmann his described a method of symmatics for the paralyzed with the object of rendering non-conductive but undestroyed paths permeable by the will. The chief point is for the patient to concentrate his will as much as possible on the movements to be performed, and so learn to believe in the results of his own activity. Frenkel has also recommended that the treatment of ataxy should be considered a branch of psycho-therapeutics. Our object should be to restors the lost power of co-ordination by exercises in which the mind plays the greatest part. Of course it is of the greatest importance that the potient should concentrate his whole will on the correct co-ordination of the movements be is told to carry out,

Granted that the influence of hypoteism on measular gymnastics is not to be denied, it is of much greater importance

where the inhibitive effect of the external activity of the will is concurred. It has frespently been used in recent times to suppress convolute movements, and often gives good results in cases of chimnic chores, though it is less effective when the complaint is acute. But it is particularly useful in all other kinds of convalsions, especially each as are termed tics. Meige, Feindel, Brissaud, Oppenheim, and others have given examples of the great efficacy of will-gymnastics. The inducate of the will must be methodically strongthened by at fest limiting the suppression of the uspleasant symptom to only a few moments, indeed only to seconds, and then gradually increasing the duration of the offert. It will always be possible to increase the effect by using all kinds of accessory measures. with as making the putient took in a mirror while he is performing the exercise, as he would otherwise fail to notice the involuntary movements he makes. It is also important to let the partient rest for a came after his attention has been kept freed. Although this branch of psycho-therapeuties has been greatly furthered by hypnotism, it is not altogether new. In former times people were often enough somewhat hazy as to the pixcho-therapeutic character of this method of treatment. I remember the treatment of writer's cramp that was recommended by the writing-matter Julius Wolff a long time ago, and which consisted in a combination of manage and gynnastics. The treatment of stammering also has its place hore. The exercises in breathing and speaking that are set a stammerer likewise serve to strengthen the influence of the will on the motor uphere of speech. The treatment of stammering, moreover, shows how little we are able to separate the suggestive element from other influences. Apart from the fact that a patient is often influenced suggestively when the doctor who is treating hom holds out the possibility of his being cured by exercises in talking, we have to consider that such occurrises as well as the whole woller tend to strengthen his trust in his own capabilities.

But it is especially in its relation to hypotosism that the importance of the internal activity of the will has been recognized at a mental remody. Certainly it had already met with popular commendation. Anybody suffering from pain was told

is often happens that the effect of suggestion is historied by letting the mannerer that the social was in trousing him formerly suffered in the soon may and one cored by the marked in solvening.

he should not think of it, but pull himself topother. But no methodical efforts were made to strangthen the patient's energy. In this respect hypnotion cleaned the way. By showing how much can be done by hypnotic suggestion, it raised the question whether the same results could not in many cases be obtained by the action of the patient's own will. In many cases this question trust be answered in the affirmation, although it may often happen that a methodical strengthening of the will is first of all recessary. I must here refer to what Payor, who has thoroughly discussed the theraperaic employment of the will, has said of the inflorace of the latter on the sequence of ideas. He has rightly pointed out that every secollection that is not from time to time repeated grafually fides, and finally disappears from memory. We are to a great extent master of the attention we pay to anything, and we might easily eliminate a memory-picture by striving to resist its recurrence. But as the potient has frequently no tendency to do this, his dorter mint guide him. In many cases of imperative ideas, either with or without a feeling of dread, the evil may be combated by gradually and methodically increasing the pressure brought to bear on the patient. In a case of agoraphobia the doctor should recommend the jutient to gradually increase the length of his walk, or to take a companion with him at festthis generally does away with the feeling of fear,-and then to increase the distance from the companion guidually. I have often seen this method succeed with people who were afraid of railway-travelling. This enables the partient to take longer journeys, and it is reten noticeable that people who have made some little progress in this way get on rapidly afterwards. For instance, when a patient who could only remain a few minutes in a train gradually becomes able to stay in one for half an hour, the transition to journeys leating days and nights will be erry rapid.

Another phenomenon, often closely connected with importative ideas, may also be beneficially influenced by gradually increasing the patient's energy. Many patients who suffer from importance ideas feet a constant imports to talk about their malady. This is very trying to those about them, and gradually alienates any sympathy. In each cases it will prove beneficial to the patient and his surroundings little by little to teach him self-contect. I have often observed that patients who are given permission to talk about their complaints for a

specified time, such as an hour twice a day, never take advantage of the permission, even in those cases where they were formerly in the habit of complaining about the impensive ideas that troubled them, every time they men a relative. Even if this treatment laids to bring about any improvement in the patient's disease it is none the less of importance, for it prevents him from annoying the relatives with constant complaints, and thus enables hen to retain their sympathy. This circumstance must not be undersated, for there is a limit to the forbestance that columns can be expected to enablet.

Volitional therapeutics, especially the exercise of the internal activity of the will, of course often greatly taxes the patient's powers. From this it should be evident that it will generally be as well to explain to the patient the purport of the treatment he is to undergo, especially when the disease that he is to arxist in enadicating is not precisely inksome to himself. This refers particularly to the affections included in the generic term sexual perversion. I shall enter into a somewhat detailed discussion of this point, because, in the first place, the treatment of sexual perversion by the influence of the activity of the patient's own will constitutes a paradigm for therapeutics of this nature; and, in the second place, because the importance of volitional thempenties in combating such affections has been very much underestimated. When a person suffering from persension-a homosexual, for mittance-is to be crued by the activity of his own will, he react be addressed in something like the following terms:- "All sexual thoughts, whether normal or perverse, may be divided into two groups according to their mode of origin-the voluntary and the involuntary. The latter often arise without its being possible to mate the crum. An accidental meeting with a sympathetic person, a sentence in an otherwise harmless book, or an organic stimulus such as the accumulation of somen will often arbitrarily arouse sexual ideas. But sexual ideas are frequently produced soluntarily. People try to create voluptions feelings by recalling past events of an exciting nature and giving free scope to their imagination. It is hardly possible for there to be a normal man who has not at times let his fancy run on such subjects. And this applies equally to the pervente as to the normal individual." The method by which pervension is to be combated must depend upon a distinction being made between voluntary and involuntary sexual ideas. The victim of perversion manner fight

involuntary lifeas successfully, has be should concentrate all his energy on avoiding the voluntary creation of puretter fancies. Insteed, whenever perverse ideas crop up involuntarily, he must endeavour to suppress them by an effort of will. It is immaterial, in this request, whether the parient endeavours to erente normal sexual pictures in his mind or betalos himself to some occupation that will distract his attention, provided be does his atmost to suppress persone memal images. Although the said unalizedly of patients ascert that the perverse thoughts arise involuntarily, there can be no doubt that the voluntary ones must first be got rid of if we are to succood in suppressing such as are involuntary. But in addition to this we must exert ourseless to make the patient sentitive to normal sexual stimuli. For this purpose he should either be led from time to time to direct his attention to normal sexual processes, or else should be occasionally given an opportunity of testing his capacity to react to narmal sexual illimath. This can, for instance, he accomplished in the case of a homosexual man by placing him in the right kind of female society. The chief point, however, is not, as some occanionally assume, that the homosexual individual should seek intinate henerosexual luter corner, but rather that he should learn to react to the charms of persons of the opposite sex by frequently associating with them. There can be no manner of doubt-and this refers equally to the homosexual, the pædophile, the felishist, the masochist, and the sadist-that many persons can be brought in this way to lead a normal sexual life without any suggestive treatment. The central idea of the treatment is that the patient should avoid the voluntary induction of persense sexual notions, and should also attempt to combat any that may arise involuntarily; on the other hand, he night to force himself to create normal search ideas. I have often found it of great assistance that the patient should form sexually normal ideas shortly before going to cleep. This frequently appears to act beneficially in beinging about dreams that are normal from the accord point of view, which, it is well known, hardly ever occur in cases of persension.

It is perfectly clear that the activity of the will can only be employed in combating sexual persentions where the patient is endowed with moral strength of a high coder. A person who is accountly pervente will be as little inclined to around ducking on lasticious ideas as is the normal individual to turn away from agreeably component thoughts. The real danger consists in the distrationation of the patient to give up sexual fancies congenial to himself, and to substitute for them a set of ideas which are just as unsympathetic to him as would be the pervenue nutions to a normally constituted man. But experience teaches in that many of the pervenue do develop the necessary energy. And esperience also proves that in many of those cases—especially of young people—in which the patient co-operates with his medical advisor, the result in thoseughly satisfactory. When the patient avoids all voluntary pervenue fancies, normal sensation not infrequently ensues.

I have only given neveral pervension as an example; there are many other cases in which much can be accomplished by voluntary efforts at suppression—such, for instance, middlesystemates of auto-suppositive origin, and all kinds of

psychogenic disturbances.

The foregoing considerations show the close connection that subsists between solitional therapeutics and habit. We are able to attain the power of influencing all kinds of mental processes by regularly and methodically employing the will; we are farther shie to modify the functions of the body very considerably by increasing the influence of the will, as we saw, for instance, in the case of muscular activity. It is even possible to acquire an influence over functions not controlled by the councious will-throe of the bowels, for instance. It is possible by inducing a habit to bring about action of the bowels in the chronic constitution from which so many ocryous people, and sometimes even whole families, suffer. A remedy that is often recommended comists in advising the patient only to go to the closet at a specified hour every day and also to reset to the atmost any inclination in that direction at other times. We often observe when employing this method that although, in many cases, the patient may not at first have a metion at the specified time, he gradually gains such control over his bowels that one very soon occurs regularly at the time intended. On the other hand, many people being on constination from a false sense of modesty this occurs, for instance, with school-girls who are often ashamed to let these companions know that they could possibly be troubled with a natural function of that kind. Erequent suppression of the natural desize to defecate gradually sets up a sleggish action of the bornds and finally brings on chronic constipation.

Diversion of the attention is of the greatest importance in pyschotheraposities. It is related of Pascal that he tried to obtain relief from toothache by occupying himself with the solution of arithmetical problems, and Kast had a special method of diversion that he recommended for intomnit. There are two ways in which a doctor may recommend the use of diversion of the attention for therapeutic purposes; he may either tell the patient in general forms to divert his attention from his troubles, or he may give exact instructions intended to bring about the diversion. He may, for instance, advise the patient to go to the theatre, read some book, or travel. There are other cases in which the names of the distraction must be left to the patient and only the accessity for it be invisted on. But experience teaches that exact detailed instructions are more readily followed than general advice. A patient who is told to read a certain book, or to translate a passage from a foscign language, or to go for a ride at a specified hour, is far more likely to obey the order than he would be to attend to mere general advice. Any one suffering from severe pain, or from imperative ideas, cannot have sufficient faith in diversion to try it readily, orders be by given definite interpetions.

It is sometimes desirable that the method employed for directing the patient's attention should be under the doctor's control. Opportheirs refers to cause of altiroit algore, in which he discret the patient's attention from his trouble to something clar, so as to preclude the inhibitive impulse. A patient of mine, who declared he could not walk without experiencing very severe pain in his back, was cared directly I took a few walks with him during which I distracted his attention by conversation. This convinced him that the pains were not necessarily associated with the net of moving; but since the belief that the latter is the case, and brings on or, at least, increases the pains auto-neggestroity, we are often able to be of great use to the patient in the minner indicated.

There are many cases in which diversion of the attention is only intended to render the patient's troubles less appreciable; but in others it is an intentional adjunct to the general dictotics of mind and body. I shall return to this latter point when I come to discuss the treatment of discuss by giving the potient areas occupation. The importance of diverting the attention is very often undernated, and this has led to many

a person being misjudged. There are patients-not only hysterical women-whose troubles disappear directly they become interested in anything; an enjoyable theatrical performance, for instance, an agreeable book, or animated conversation. But only a laymon can consider it a sign of want of energy, or even an evidence of simulation, when a patient who was proviously full of complaints declars that such little matters reader his pains less appreciable. We are here really dealing with a perfectly intelligible psychological phenomenon-viz., a reciprocal relation, that puts some elements of our consciousness in the background when we direct our attention to other matters. On the other hand, the value of diversion is sometimes exaggerated, and laymen often think that they can benefit patients by employing the method when it is really quite out of place ax, for instance, in melancholic states. It is quite strong to persuade each a patient to sock diversion in travelling. Journeys were recommended long ago by Seneta as an excellent means of diverting the attention, especially on account of the number of other influences they bring into play, such as change of climate, the joys of nature, the pleasure of contemplating works of art and of meeting with other people. All these things may possibly put a 160p to even serious nervous phenomena. Only, the value of travelling should not be overrated, as, for instance, very fooquently happens in the cases of melancholia alinded to above, for rest is then the hest remedy and not diversiget.

The effects produced by diverting the attention indeed show how great a part is played in psycho-therapeutics by the feelings, and we shall also see when we come to tocatment by occupation that we must be gooded by the patient's inclinations. The sasiest way of diverting the attention is to do semething that is agreeable and decidedly amoring. Attempts have also been made to give a very wide scope to the therapeutic me of those influences that can be brought to bear on the inner and emotional spheres of life. Sydenham certainly recognized the importance of this remedy when he expressed the opinion that a whole town would benefit more by a wait from a Jackpudding than by the importation of ten mule-loads of drags. But appleasant separations likewise have their therapeutic value. They spur a patient on to defend himself and resider him capable of resisting such daily influences as constantly.

prove harmful to a pumpered individual. These facts wont be taken into special consideration where children are concerned, for it is only in this way that the latter can be made resistant.

Powerful or sudden emotions have also been known in musty cases to exert a favourable influence on health, Hysterical paralyses have been cured by horses. A wellknown historical instance is that of the son of Crosum, who necessared his speech when he saw a soldier attempting to kill his father. Fright is also sometimes of service. Hack Toke relates that an epidemic of somrambulism in a school stopped directly a couple of buckets of cold water had been theown over one of the pepils just as he was beginning to walk in his sleep. Beernaave brought an epidemic of convulsions to an end by threatening to use the actual cautery. Every gractitioner of experience has observed some similar occurrency, though often only by accident. But we must, as a rule, be very cautious in the use of eadden emotions, especially horror, for the consequences may be serious and cannot always be forescen. It is certainly more frequently possible to utilion four as a therapeutic, at least indirectly. Many patients only follow the advice given them when the consequences of disobedience are brought home to them. A patient of mine who was suffering from alcoholic neuritis, and who was at the same time consinced that he could not do without alcohol, became an abstainer directly I told him, in strict accordance with the truth, that otherwise his paralysis would get worse and Incomptor disturbances set in. The faradic brack, tooften used in therapeuries, in many cases only has a mental. influence, and that either by suggestion or, as Roombach points out, by the patient's fear of the pain that a repetition of its use would again bring on. It cannot be doubted that the hope of reward or the feat of refinal in respect to some special wish may induce the patient to exert greater energy in the direction desired. This may be observed even in the case of functions that take place involuntarily-nervous vomiting for example. A patient troubled in this way sometimes ceases to be sick when she is sold that she will have to be fed in a very projectant way artificially, perhaps for man, should the compling commune. Again, a patient suffering from all kinds of ties will work all the harder to suppress them if it he finited that he will be rewarded by a visit to the theater to some other form of ammenicat. Nevertheless, we must not fail to seesprine that ethical considerations impose certain postrictions on a medical man. The psycho-thempeutic me of fear must server particle of the cineratur of a pensishment, for no doctor is ever justified in inflicting that. No matter have far a medical man's rights may be thought to extend, we must at least exclude from the uphene of his activity the power of inflicting anything that beam even the remotest resemblance to an inflignity, under which head the question of the infliction of punishment by a doctor certainly comes. Such matters must

be left to the proper authorities.

Voltional the spenties and diversion of the attention have already given us an opportunity of mentioning treatment by occupation. Although we occasionally find mention made of it earlier, it is only in quite recent times that it has come to be seriously eccopiized as an accessory thempeutic agent that should be used methodically. Occupation not merely provides the patient with a temperary diversion from his troubles, but very frequently process a true, indeed, the only remedy. Health in the case of most people presupposes well-regulated and active habits. Even in cases of incurable disease it is often of the greatest importance, since it provides the quickest means of suppressing the feeling of being iil. It is of far greater benefit to a sufferer from focomotor ataxy to keep him membly amployed than to leave him to his fate. "Even in mucs of real archaess we must rarefully distinguish between the illness and the feeling of being ill. For the most part the latter greatly exceeds the former" (C. W. Hufstand). It is just the very feeling of being ill that is soonest leasuned by regular trotk.

Of course, we must individualize as much as possible in chroning the occupation. Many kinds of work are precluded by the nature of the disease. But spart from this, the expabilities, interests, degree of education, social position, perturbate circumstances, age, sex, intronsity of the patient, testion the tendencies of the times and many other matters, may any one of them determine what particular occupation is to be recommended. In that unities but very instructive back counted Stofpersta, the Power Destor at the Solution, that appeared more than a hundred years ago, the author expresses the opinion that many a first lady would be better off with a bester in her hand than a fan. However right this may be, and however justified we may be in not laying too great a

stress on the jutient's social position when choosing him an occupation, each of the factors mentioned above has to be taken into comest consideration. We cannot cuspley an educated person merely with cleaning rooms, and on the other hand we should hardly recommend to a simple, uneducated woman the study of the history of Italian art as an occupation. A doctor must also assed basing the advice he gives on his own personal trates. Because he is frimelf an enthusiastic Wagnerite, he must not therefore recommend a patient who has no car for munic to attend Wagner's operas or sit out symphony concerts. Even though an interest in works of art is often only aroused by being brought into centact with them, the question of natural disposition yet plays an important part in the selection of the work. The colour blind can never too things an the normal do, and there is an analogous distinction between persons of different mental constitution. A doctor should also never allow himself to be influenced by the patient's relatives; and he should therefore pay no attention to those mothers and busbands who still believe they have a right to deprive young girls and married women of every book dealing with the woman question or similar problems. Tomes have changed, and any one who wishes to be consinced of this fact need only listen to the conversation that goes on between young men and young women nowadays. At all greats, we have no business to withhold such books from women of a properly earnest disposition or to depy them a suitable sohere of activity.

In certain cases the doctor will lay the chief value on the montal, in others on the bodily activity cannot by the occupation. It is often necessary to prescribe visits to the thrane,
concerts, muscuss, a porticular course of reading, to the
importance of which B. Laquer, Lowenfeld, Oppenhairs and
others have drawn attention. The further education of adelta
has also to be attended to by giving instruction either in
languages to in other subjects. It sometimes has a very good
effect if the doctor superintends the patient's work; recommends him, for instance, to read some book and then makes
him repeat what he has read, or else gives him a written
exercise—a translation, for example—and himself supervises
the performance of the task. About the only thing a doctor
had to do formerly was to write prescriptions, but the duties

nowadays are very diversified.

B. Largaer has attempted to classify the books that should prove useful to patients according to Dunin's three chief types of the molimina presented by the tick. He has consequently made the election of a book depend upon whether diversion, soothing, or encouragement is indicated. But I hardly think that a patient's reading can be arranged in this way according to types of disease. This method of differentiation will not, as a rule, hold good in practice, the other aforesaid factors playing too great a part. Similarly, it is very often futile to attempt to improve the frame of mind of a patient suffering from very low spirits by giving him humorous or farcical books to read. And I think the old rule that a worked wagnative should never be allowed to obtain possession of a book of the kind called humorous still holds good in many cases of hypochondriasis.

Although we may consider the reading of unitable books a temodial measure, we must remember, on the other hand, that unsuitable books are injurious. Every practitioner knows the amount of misery that popular works on the "terrible" consequences of masturbation laws caused. The discussion of mental diseases plays an important part is modern literature, and Ihaen's works in particular must be considered inimical to the public good. Of course we must admit that forbidden fruit tastes sweetest, and it is therefore often better to give direct advice as to what should be read—i.e., the patient should not be forbidden to read dangerous books, but rather recommended useful ones. It is often prohibition that first leads a patient astray.

Moreover, the dangers connected with the enture of the birds read were pointed out miney years ago. In 1839 these appeared a work by Bird, entailed Memorium and Kothe Lower, in which the author made a special attack on Justinus Researche reaching on the domain of psychiatric in a poem and a novel. Known's productions were compared with Shake-appears; and Bird made out that Khener, in contradiationism to Shake-appears, but done have because his descriptions were wrong.

Muscular activity must also be included in treatment by occupation. It as frequently satisfies the indications of psychotherapeutics as it does those of physical therapeutics. Here also the individuality of the patient must, of course, be taken into account. All kinds of physical sport belong born, such as cycling, riding, skaring, tennis, gymnustics, and filterine ordinary walking exercise. We need not benitate to recommend rough work occasionally, and too great attention should not be paid to the question of its sainability to the patient's station in life. It is the man engaged in head-work who an often derives great mental benefit from physical labour-treefelling, sawing, grass-mowing, for instance. Cutting down trees did the English statesman, Gladstone, an immense amount of good. The way is which muscular activity influences the patient's raind must be judged from the standpoint of psycho-therapeptica. Cycling, for instance, from both the mental and physical standpoint of therapeutics. The speed with which long stretches of ground are revered and the relatively small amount of muscular energy expended have a salutary effect on the consciousness. Furthringer lays great value on the way in which the work is divided among the cerebral ceremen. "The cyclist whose attention is chiefly directed to the road and the surrounding country is compelled to make very great calls on the lower centres, the organs of sense, and at the heavy thoughts which cloud his brain disappear cuts off those factors that were depriving him of mental rest." To be able to rest from mental labour of an exhausting nature is certainly an essentially remedial factor in many cases. On the other hand, Monnier has rightly pointed out that many kinds of work-e.g., turning the orgostat, the "hygienic promenade," the use of dumb-bells, knitting and the like are not to the purpose, because they only energise the lower cerebral centres. It is far better to attempt the cure of habitual abnormal activity of the tenin by directing the activity into centrifugal paths, and we should therefore select some kind of work that requires constant application of the attention and can only be carried out by the primary consciousness. Both authors are correct in their advice, though they seem to contradict one another somewhat. They entirely agree that a form of muscular activity should be chosen which has some definite object in view. We should hardly think of using a treadmill, for instance, as a therapeutic agent, since its employment is simless. Other kinds of labour may be of much greater me-even chouping up blocks of wood, for that produces tangible results.

Much attention is paid to peasi-therapeuties negadaps, especially in institutes. We have certainly here to distinguish between cases in which the patients have only to work a short time-4,5, an hour or two in the garden, and those in which the work constitutes the essential part of the treatment. The latter form of treatment plays a great part in those institutions. for nervous diseases among the poor which were first erected on Benda's recommendation. The form of ergo-therapenties employed in such establishments is that recommended by Kraft-Ebing, Eulenburg, Mobius, but more especially by Groumann and Schwarz. Its object is to render the patient once more a useful member of society. The system is worked on economic principles, the patient's work being unified for the benefit of the establishment, and a portion of the expenses are thereby covered. Quite recently, training patients to work has come to be looked on as an essentially remerical factor even in establishments for those who are better off. Marcinowski deserves special mention in this respect. Although great importance must be ascribed to the use of ergo-therapeutics outside such institutions, the latter afford special advantages for its amployment. The supervision is very much better, provided the doctor really troubles about his patients and does not conduct the establishment as though it were merely an hotel. Monnier very properly insists that only a few patients at a time should be placed under the guidance of a specially qualified director, otherwise the treatment degenerates only too easily into a mere matter of sourise. Very much depends on the personality of the director, who mest understand how to permanently increase the patient's must is himself and his confidence that his morbid symptoms are disappearing, by advice and suggestive influence. Such institutions are also specially adapted for praxi-therapeutic treatment, because good example is just as infections as laid. A patient will be much more inclined to work when he seen others employed, and also observes how well their work makes them feel. As a rule no compulaton is necessary, and Möbium would even forbid the use of any such in an inscitute. It is cenerally quite unnecessory, because patients who are at first disinclined to work very soon follow the good example given thurs.

With segard to the curative value of work, views differ somewhat according to the results achieved. Although any differences in the results obtained may partly be due to the discoor, the nature of the discoor also conditions such diventities. Schwarz has pointed out that better effects are produced.

with nervous people than with psychopathics. Monnier has attempted to make the indications even more definite. It is specially in quite fresh cases of bytestia that imperative ideas and impulses, tendency to broading and auto suggestion, parestheniar of all kinds and the like, also the phenomena of nematthenia, can be removed. Where the patients are wrakminded, psychopaths, or drunkards, the results depend essentially on hereditary disposition and the duration of the disease. To succeed in training such people to work has the very best influence not only on the primat himself but on his companions as well. The work-cure is not so beneficial in cases of hypochrondiasis and parameter in the former, restlessess and the constant desire for change, and in the latter the personners, dean prevent the patients from persisting in the freatment.

Treatment by occupation is also of great economical importance to many patients, at it enables them to be trained once more for professional work. To practice a profession has a very salutary effect on a human being's health. Unforturntely, medicine has usually undersated the importance of this question of following a profession, and even when this has not been the raw the matter has been judged on false premises. Physically weak people with a tendency to tuberculosis have before now been recommended to betake themselves to gardening or agriculture, regardless of the fact that these occupations make such severe calls on a person's physical strength as to nullify the advantages derived from working in the open air. Nevertheless, it must be admitted that the advisability of being engaged in some calling has for some time past obtained at least casual recognition from the standpoint of somatotherapouties, whereas the psychotherapoutic importance of occupation has been almost totally ignored. Forel his pointed out that numbers of people pine away because they are not allowed to choose a calling suited to their talents and inclimations. I have frequently noticed the quarrels that have arisen in this way. A doctor must always endeavour to overcome the prejudices of parents and relatives. This is often observable in the case of daughters. Many young gals desire serious occupation, but their parents, who were brought up with old-fashioned ideas and who are disinclined to adapt themselves to the ideas of the day, refuse their consent for fear of damaging the reputation and social pourion of the

family. The result is that a girl who is thus thwasted in her denire to sugage in an occupation congestal to her mental disposition talls iil, hereuring more especially hysterical and servous, or when either of these two murbed states already exists their cure is impeded. In nearly every case the healthiest course is that of allowing a woman to occupy herself in whatever manner best imports failness to her life. This, of course, is not intended to run courses to the view that a happy marriage generally failful the object of a woman's life. But when financial, social, or other reasons present such a marriage taking place, or even when a married woman fails to find that marriage entirely fills her life, we have to think of

some form of artivity to make good the deficiency.

Naturally, these considerations in the choice of a calling do not only apply to the female see but to the male as well, though projettice plays a greater part in coming to a decision in the former case. Of course when a doctor has to take part in such a dispute he must make a most careful study of the indistinuality of the person in question. Forel, who warmly recommends professional occupation as a therapeutic measure, atters a word of warning against considering every one as anappreciated genius whose parents do not at once let him have his own way. Psychogathic persons, and especially the weak-minded and the very hysterical, are just the people who so very frequently misjudge and overrate their powers. Such people always want to imitate any person who has made a public success. One wants to be a singer, a girl to become an actress, and a third, who has perhaps been a pussable beniness most, suddenly thinks he has a call to reform electro-technica or the policy of the econtry. The psycho-thempestiat must carefully distinguish between the moods of such intigrificant persons and tendencies that have to be taken seriously, Individuals of the farmer type only look to results; they object to devoting years of achieus study to attain the end. It is different with people who are really in earnest. It is not so much the desire to pose as leaders of thought that artmates. thers, but rather the austinctive impulse to engage in some occupation for which they feel themselves to be naturally fitted. It often falls to the lot of a doctor to smooth their way and evercome any opposition their relatives may offer. Of course, he will not invariably be in a position to decide which of the two cases he is dealing with in any particular instance. Knowledge of human nation, earnest amply of the individual in question, committation with other specialists, and often a hicky shot, will lead to a corport decision, the importance of which

can handly be oversated.

We have some that in many cases the patient himself asks for some professional occupation, and the doctor's assistance is then only accessary to overcome the opposition of his family and thereby render the way smooth. But in other cases the very thing the doctor has to do is to combat the patient's epposition to work by explaining to him that he can only malprais or regain his health by taking on some amous occupation. These considerations also apply to elderly persons whose tendency to hypochrondia and hooding can often only be overcome by their being engaged in some form of regular work. The impulse to work which this brings rejuveraces them and has a salutary effect on their disposition and health. Even the occasional cares and excitement attached to business are often far less injurious to the nervous system than doing nothing and the absence of any impulse to work. I must here refer to what I said concerning traumatic neuroses on page 34%. where I pointed out that the certain prospect of a permanent income and the absence of any compulsion from without have proved injurious to many people.

Of other psychotherapeutic measures I may mention treatmont in an institute, to which reference has already been occasionally made. Hospital treatment was recommended for many affections long ago, but its field of activity has been greatly widered in recent times. It is often advisable that a patient should be admitted into an institute because many thorapeutic measures can only be properly carried out thesea complicated hydro-therapeutic treatment, diet cares, operations, etc. Treatment in an institution is also often necessary on psycho-therapecnic grounds. The patient has to be removed from his former surroundings and relieved of his business and domestic cares. He requires relief from the injurious influence of over amious friends, and from everything tending to counteract the doctor's advice or upoet his plans; or it may even be that it is advisable to place the parient under the doctor's continnous influence. Anything of this nort can rarely to accomplished at home, though it may very well be in a good institute. There are many other influences to be considered in this connection, and Wiedeburg has called amention to them in a pamphlet. Sometimes a patient is benefited when he hears that he is to visit an establishment of which he has heard good accounts. Many establishments possess the advantage of a good position, the opportunities they affeed for encursions, for enjoying the pleasures of nature and indulging in sports and harmless games. Work-cores, to which I have already called attention, are best carried out in institutes. But one point on which special weight must be laid, and to which attention has already been drawn, is that a doctor is better able to bring his personal influence into play laside an institute than out. The discipline that so many patients require can be best attented by a conscientious and emergetic hospital doctor. Every one, even the rich and pampered, should submit to it. It is just this compulsory subjection that power beneficial in so many caree.

It is certainly any to understand that every institute is not suitable for the purposes mentioned above, especially when we come to consider that the personal influence of the doctor is greater the smaller the establishment. All large institutions conducted on the lines of an hotel must therefore be rigidly excluded when it is intended that such personal influence of the medical director is to play the chief part in the treatment. In the same way, when rest is essential for the putient we must be careful not to select one of those builty-planned establishments in which the position of the rooms is calculated to cadanger the patient's peace and quiet. Unfortunately, in many establishments the thoughtlessness of the servants and the constant din of morie frequently disturb the patient's rest at night. It should be the daty of every doctor to avoid recommending any establishment in which a patient is likely to be annoyed and disturbed. This does not imply that large establishments are not without their advantages, especially for parients who are more in need of the stimulus of social intercourse than of the personal influence of the doctor. But even in such cases an establishment should be selected that is built and conducted in a way calculated to save the patient from any kind of annoyance. As Edinger has rightly pointed out, many a one is more benefited by a trip to the hills than by the treatment he was advised to undergo in an establishment. In the latter form of treatment special care must be taken to give prominence to the psycho-therapeutic moment. Patients who enter an institute in the hope of obtaining rest, only to find that the whole day is occupied in exhausting hydropathle treatment, massage, etc., may easily be seriously injured by such processes. In any case, even where sometic treatment is concurred, the importance of mostal influence should never be overlooked.

The psycho-therapeutic effect of treatment in an institute may often be considerably increased by strictly isolating the patient. That can hardly ever be done outside. Attempts to isolate a patient in his own home seaseely ever succeed. Even when the patient's relatives promise to do so, the doctor may assume with a degree of probability hordering on certainty that there will be no really strict isolation, and that either the conjustly or amulety of the relatives, or else their desire to prevent the patient becoming ranger, will soon lead to his instructions being evaded. The good affect of solitary treatment, especially in cases of hysteria, has long been known. Chargot was a particularly warm advocate of the method, and he was turbs right in considering isolation the working principle in the Weir-Mitchell treatment. When discussing that system Charcot called attention to the interesting historical fact that Weir had already recommended isolation for the treatment of demoniacal obsession. From the psycho-therapeutic standpoint isolation may be just as necessary for preventing unfavourable influences being brought to bear on a patient as it sometimes is from the standpoint of squato-therapeutics for safeguarding a patient from the acquisition of noxious drugsmorphia, for instance.

Of course, strict isolation is only possible in relatively speaking few cases. It also presents certain dangers: the possibility of a patient devoting too much attention to his morbid fascers calls for special consideration in cases of hysteria. But then there are contra indications in every form of thempeusis, and they have also to be thought of in the case of treatment in an institute. It is rarely possible for a doctor entirely to present patients discussing their maladies, no matter how firmly he forbids it, and we can understand how injurious such renversation is to very impressionable people. How prest these dangers really are is proved by the fact that when I was in Paris I often heard the Solphinsian referred to as a Fulrape of Arrivale, notwithstanding the authority exercised there by Charcoc. We must therefore be most cautious before placing an impressionable girl in an institution where the is likely

to get into conversation with hystericals, vactams of fear, etc. Meeplinousanines may also be diageness companious, and I know of patients who, having stayed in an institute on account of some neuralbenic trouble, have there become perverted to the morphia habit. The ossential thing in every testitute is the spirit that pervades it, and that depends more superially on the doctor who has the post of medical director. But even where the conditions are most favourable we must not expect miracles to be worked. There are many cases in which the disappeared while the posters was because the symptoms that disappeared while the patient was being treated been out afresh when he leaves the place. A balance must be atrack between the advantages and disadvantages of treatment in an intuitute, and it is for the doctor to find our which

is the right establishment in each particular cine.

Just now I made mention of the danger of mental infection occurring in institutions. It may also happen outside such establishments, especially in the consultant's waiting-room. will take tragmanic neurosis as an example. It only requires one such patient to describe his sufferings and their muse for a number of others at once to imagine they are suffering in the same way, because they have met with an necident at some time, or at least think they have. In the same way we often observe that using a waiting room in the out-patients' depurment of a busy hospital, for instance, is a very hot-bed of "transactic neuroses." Of course there are many other opportunities for morbid symptoms to be created in a similar way; we can never entirely exclude this possibility; but we are bound, as ductors, to bear it in mind and do our best to avoid the risk of any such danger arising. We are sometimes able to do this by requesting patients who, for instance, are likely to prove dangerous to others, only to visit us at times when they wil find robody in the wantigroom. Of course, we should not go so far as to attempt to prevent every possible kind of injurious influence; we are not able to do this, and it would be appoind to a wise system of psycho-hygienics.

Finally, I must neution religion as the most effective psychotherapeutic remedy we pensee. I do not mean those forms of religion that involve supermittious practices, because they may prove injurious by causing the seccessary somatotherapeutic to be neplected, although they do at times have a therapeutic effect; what I really mean is the religion that enables a patient to face even the most tentile situations with equationity. There must always be cases in which the discuss is either incurable or to an extent stationary or progressive, where the patient can no longer be buoped up by any influence his doctor can bring to bear. In these cases religious belief is the best medicine for the patient. When a patient sups, "The Lord our God must indeed love me, or he would not inflict such suffering on me," a doctor cannot but reflect, as Lowenfeld rightly insists, that he can never provide a patient with such consolation from any other source.

I have intentionally abstained from going any further into the indications for the employment of psycho-thesapeuries. The examples I have already given show that it is as wellcalculated to satisfy the furfactio assumits as it is to fulfil the furfaction merch and the furfaction symptomatics. But we must be very careful in our delineation of these indications. It is frequently assumed that in cases of furnitional disease all that is requester is to satisfy the furfaction assumits or even the surfaction world.

It is generally admitted in the present day that the use of psychotherspeaties is more frequently lidlested than was the case twenty years ago, when it was thought desirable to limit its application entirely to hysteria. There is hardly any disease in which it does not play a part. This applies as much to functional diseases as to organic ones, to curable as well as to incumble, or to stationary or progressive, acute or chronic maladics. The way in which psycho-therapeutics has come to be looked on in the present as an important factor in the treatment of exactly the severest diseases, proceeds from the recognition that the case of the sick now enlows, the influence of which on a patient's mind is of the greatest importance. Even in surgical cases in which a seperficial judge would consider psychotherapeutics superfluous, it really plays a great poit. Klassner has called attention to this in a small pamphlet. A very countrial point is how a surgeon makes his preparations for an operation; whether he affects his instrument in the presence of the patient, or whether the latter hears the eries of pain emitted by others or even sees the blood of those who have just been operated on. All these matters come within the scope of psycho-therapeuties and have been much too long regiected. Of course, the object for which a doctor employs

psychotherapostic sensules will be different in each particular case. Scrominus psychotherapeuties, for example, praxitherapentics, will be employed to prevent the patient being conscious of his disease, sometimes to cure the disease itself. The form of mental influence to be used must be so those as to sait not only the unture of the disease but the patient's individuality as well. Age and sex, financial conditions and social position, nationality, temperament, character and degree of culture, religious belief, and many other facts are all determinants in the artection of the kind of influence to be employed. A simple talking-to by the doctor without any other accessory suffices in the case of a child (Comby), but it may be much more difficult to make an imprenslott on a grown-up person. With weak-mended persons we shall have to jumple a different course to that we should take with the intelligent; but no doctor has ever my right to neglect psycho-therapouties. From the age at which a human being becomes asserptible to mental influence down to the bone when he is lying unconscious in the death agony, psycho-therapeuties has to be taken into account. Indeed, in respect to the latter point, I must draw special amention to the fact that a dying person is in most prgent need of the psycho-therapeutic influence of the doctor and of those at the bedaids, and that those somatic influences-injections of camphor, for instance, and all the other tortures to which the dying are so oben subjected -are, in numerous cases, quite opposed to the landamental principles of psycho-therapeutics and humanity. I also take this opportunity of giving a word of warning against assuming that the death-agony is accompanied by anconsciousness in cases in which the patient may possibly still be susceptible to the influence of those around him. Solicitude for the dying person's ponount passing (enthannia) opens up a wide field to psycho-therapeutics. These discussed this point in great detail in my work Arabiche Ethill.

It follows from the foregoing explanations that the use of psycho-therapeutic influence is not limited noicly to specialists. I must here refer the reader to what I said about medical specialists for hypnotic treatment on page 3.25 of e.g. But there are certainly many cases in which a doctor who has made a speciality of psycho-therapeutics is better writed to carry out the treatment than another, but every other doctor, whether he is engaged in general practice or in some special branch of

medicine, is bound to have many opportunities for employing psychotherapartic influence. In many cases certain quite deficite factors also play a part. Thus there are cases in which a doctor who is almost a stranger is able to exert a greater influence than one who is a friend of the patient. It is an old acory that when a doctor is on intimate terms with his patient, his influence on the latter is frequently lessened, though it semetimes impens that old acquaintanceship incomies the influence. Take the case of a family doctor who has attended the same family for twenty years, seen its members in buppiness and in suffering, watched the children grow up, been consisted on all serious matters of health, and without whose knowledge no other ductor has ever been called in. We can well understand that such a family doctor is often able to exert the very strongest influence on such patients. On the other hand, a domer who is a family doctor in name only, but who in reality occupies the degraded position of advertising agent to specialists, hydropothic establishments and sanatoria, can sever under any circumstances be calculated to exercise each influence. It often happing that a doctor, whose reputation for special skill has preceded him and whose extensive practice forbids the devotion of sufficient time to each patient, obtains the best results; his every word seems a revelation to the patient. There are many other cases in which it is much better for a patient—a negrouthenic with all kinds of hypochondistrict troubles, for instance—to neek the advice of a doctor who can devote sufficient time to his case to go into all his complaints, and who can also direct him to some occupation and activity. But this will generally have to be a doctor who is not very basily employed.

Of coarse, a doctor should not bide by a more schematic, use of the psycho-therapeutic remedies that have been described, or even think that he has only to use one of them at a time. It has only been my intention to give a general acticle of the question, and I have consequently omitted many details. As a rale, a doctor will not merely combine mental with psychic treatment, but will simple several mentally curative factors simultaneously. I have already repeatedly touched on this question. When a doctor intends, for instance, to use volitional therapeuties or practite trapeuties he eaght, almost invariably, to explain to the pattent the importance of such methods in the treatment of his diagrae—4.6, instructional therapeuties

should precede solitional thempeutics. It often happens that hypnotic treatment cannot be employed until its character has been explained to the patient. Also we are not always able to separate the action of the emotions, more especially that of expectant attention, from the action of suggestion. For this the numerous holy shrines visited by so many pilgrims, and of which Louides in the most famous in Europe, afford an admirable field of olimerention. It was at La Bonne Sainte Anne in Quebec, where sick people have resorted for more than two hundred and fifty years, and which is even now visited yearly by several thousand Catholic pilgvins, that I was able to obtain the eleasest ineight into the manifold nature of the influences at work. For a long time beforehand the patients are prepared for the journey and filled with hopes of its results. Intercourse with the other patients, the influence of religious connines, especially of peaper and the impressive services of the Church, each of these produces its effect. Patients may be seen praying fervently before the numerous ex 1100 eratches offered by their lame and spectacles by their blind prodecessors.

Smilarly, we shall often find it necessary in scientific medicine

to combine mental remodies with others.

In many cases it will be found necessary to use psychotherapeuties for preventive purposes in the form of psychologicue. O. Binewanger rightly advises that children who are disposed to hysteria should early be subjected to a process of mental hardening. We should begin as early as possible to combut their timidity and nervous fears, and carefully avoid any but class-instruction, since it is constant emulation with companions of their own age which will best combut their morbid egoing and self-will and reduce their hyper-sensitiveness to a normal degree. Much modern agitation against over pressure in schools may easily lead to very serious results. I have already alluded to this in my work on Dor Etoflate des groutfidiation Lebens and des Verbebre auf das Norsen-cysten (The Influence of Public Life and Rouiness on the Nervous System). Perpetual politic discussion of the so-called over-pressure in schools must in the end energate the pupils and diminish their powers of remistance. There are cases known to me in which children have excused their hainess under the present of over-pressure, the dangers of which they knew had been recognized by medical men! Without entering into the question of the injury done to education by thus undermining the respect in which the

scholan abould hold their school, I for my part consider that the published accounts of such discussions, which young people only too readily read, do them on the one hand more hann by dabilizating them, than they can on the other ever repair. Instead of considering external stimulus a danger and sunggeneting its importance, it is a far better plan to endeasour to render children, and adoles too, capable of offering resistance by accustoming them to the action of certain stimuli.

I must buse point out the dangers to psychologrees that generally arise from modern bygiene. It frequently happens that the good bygiene was going to do results in svil, and for this many a bacilta-bunter is to blame. Eachle reminds us that Rosenbach gave warning of this danger aftern years ago. Every opportunity seems to be taken of harmsting the public with the fear of infection; now it is books from the leading libeary, now combs, or knives and forks that the hygieriets denounce as dangerous. But apart from the fact that these dangers are often exaggerated and frequently unavoidable, since human beings must do business with one another and each of us cannot that himself up in his own isolation-but, this exeation of scarce is very reprohessible from a psychu-hygienic point of view. It has brought about such a dread of infection as to amount to a veritable mental epidemic. Of course we ought not to ignore the tractings of hygiene, but we should never press them so far as to make it impossible for a man to lough anything or transact any business without nervously inquiring "What danger am I running into?" The care of the mind is as much the purport of a true system of hygiene as that of the body, and that is a point which our hygienists should take into consideration. Instead of so doing some of them are much too addicted to giving the greatest publicity to the results of laboratory-consurch, with the result that the public is thrown into an enhealthy state of constantly dreading information.

We must as carefully grand against any exaggeration where psychotherapeuties is concerned as in the case of any other therapeutic measures. Finot thinks we ought to be able to perlong life; it is noto-suggestion produced by constantly thinking of death that causes people to die earlier than they should. He mentions Spitcka's observation that many people die after starving for two or three days, although investigation of the cases of fasting men like Succi and Tanner has shown that it is possible to live without food much longer than that. Cases have, indeed, been cited in which people are said to have died because they feared that they were going to be killed. In these cases in which people quickly steermb to starvation, First meribes the early death of the subjects to auto-suggestion and fear. But we should be very careful in drawing such conclusions, and it is always a great mistake to generalize from isolated observations. Experience has shown that even when the conditions are very untavourable, as in cases of shipwreek. or of explosions in mines, where the fear of death puts everything else in the background, life may be maintained for a very long time even without food. Hot although these facts prove that the mental influences in question have no such general tendency to shorten life as people are inclined to assume from the reports they have read of isolated cases, we ought not to fall into the error of seeing penchance in auto-suggestion an essential means of prolonging life. And further, our antagorism to exaggeration and capricious fancies should never lead us to disregard the thetapeutic importance of mental influence.

It is, of course, impossible to mention all the details of psychotherapeuties in a single chapter, and out of the question to attempt to give instruction in them. The space at one command would not suffice for the former purpose, and the latter can never be fully accomplished. But it must be said that the personality of the practitioner plays an essential part, and the characteristics that go to make a good psychotheraperaist are partly innate, partly acquired. They may be developed later on but cannot be created. It is upon such characteristics-patience, quickness of perception, presence of mind, knowledge of human nature, power of individualizingthat much of the success obtained by laymen depends. There are personal characteristics that make a man a born psychotherapeutist. This is not merely a question of the suggestive force that emanates from them, but of the far-reaching milure of the influence they exert. This is often as impossible to estalyze as many other reciprocal bureau relations. Certainly, suggestive influence begotten of confidence plays a great part here: but we are not always able to trace the origin of the confidence. It often happens that the confidence of new patients is due to the doctor's scientific reputation having preceded him; in others, to his successes being known. But confidence need not be due to success. A doctor often gains

a great reputation for skill without his knowing the reason. He is often told, to his autonishment, that caon he has considered hilmest were successes, or that little impression has been produced by what he considered a brilliant result. Patients' minds, and more especially their legic, are often the most enigreatical things a doctor has to deal with. I remember a patient whom I tried to cure of a nerrous gastro-esteritic trouble, not only by means of all kinds of physical and chemical remedies but also by mental treatment. I considered the case a complete failure, and yet shortly afterwards a number of people came to me from the district in which that patient lived and begged I would help them as I had helped their neighbour. They said my treatment had cured him of neuralgia. But the man had never complained to me of neuralgia. Whether he really suffered from neuralgia in the first instance, or, as is easily conceived, imagined so later on.

through some misconception, I cannot tell.

The wider a doctor's knowledge of human nature the greater his presence of mind and the better he is able to individualise the latter is an art that is also given to but few-the greater will his psycho-therapeutic successes be. Things that apparently have no great significance become important remedies in the hands of an able doctor. Many a patient -a man, for example, suffering from the fixed idea that he is going out of his mind-requires to be told inspontly by the doctor that the whole thing is merely an unterly groundless fixed idea; whilst in another case the constant repetition may prove injurious and only weaken the impression intended to be made. An occasional visit to the doctor should be insisted on is the case of many patients merely to report progress, and not for the purpose of securing fresh advice. I have thus found it a very salutary measure in many cases of alcoholism to imist on the patients paying me a regular visit on a stainfl day, every quarter or half-year, in order to let me know how they had been going on in the interval. The value of this procedure may also be observed in cases of actual pervention. The sense of moral responsibility awakened in the patient by the doctor's display of confidence may not in these cases as a strong presentive against temptation. I am told that in one establishment for inchristes the patients, on obtaining their discharge, receive a small ribbon, which they pledge their word of honour to return directly they relates into their former

drunken habits. Even such an apparently unimportant matter as wearing a bit of ribbon may exert a very great indissuce. The selative importance of verbal and written instruction should also be carefully bome in mind. It may at times be drainable that medical advice should be imparted in the form of a written communication. If, for invance, one wishes to educe the patient to engage in serious work, a much better result will be obtained by a letter to that effect than by any wrhal instructions given in the consilling room. Similarly, experience teaches that wiltren instructions as to diet nor catried out more implicitly than more cerbal advice on that question. In other cases, instruction by word of mouth prowns more effectual. Even here, things that are apparently of no moment are really of the prespect importance. To tell one of the people who accompany the patient what the latter should do often creates a greater impression than addressing the patient himself. In short, things that appear insignificant from the standpoint of physiology and physics are often of fundamental import to the psychologist. This is the reason why every attempt hitherto made to give a physiological explanation of mental processes was foredoomed to failure. I refer the reader to what I said on this point on page 278. The more medicine takes this to heart, the better able will it be to perfect psycho-therapeutics, and this is an absolute necessity. Reen if it he not possible to teach all the details of the system, every doctor should be as well acquainted with its fundamental principles as with those of other methods of treatment. When these facts come to be fully recognized, we shall achieve results unterly orantainable at a time when the medical profession neglected psychology and psychotherapoutics.

#### CHAPTER X.

#### THE LEGAL ASPECTS OF HUNOTHIS.

Some of the old adherents of animal magnetion—Kimer, for instance, and later on Charpignon—already encognized the legal importance of the subject. Thus the commission which investigated the matter in Dealon's time, besides then official verdict, sent in a private report to the king, brought to light apparently by the Revolution, in which they point out the special dangers by which is seemed to them morality was threatened. Lithenelt also thoroughly discussed this question from the standpoint of hypnotism in his book in 1860, and his caplanations are very valuable even now. Giffer de la Tourette, Lespois, and especially Forel, Literatus, Bentingai, Drucker, Helserle, Loca, Redon, Bonjom, Recor, Meanet, Neurocister and Halgan have since studied the legal side of the question.

The first point I shall comider is the selation of hypnosis to crime, and I shall at is customary, distinguish between crimes

committed on, and by, hypnotic arbiects.

Of estate all those trimes that can be committed on a person in a waking state are equally perjettable on the hypostic. But some existing are particularly interesting in this respect, and of such I taust give the first place to offerent against morality. Y. C. Muller supposes that the fart that had few such cases have hitherto come to the notice of the law is accounted fee by loss of memory, the subject being usually surveine of them. But Forel's supposition seems to no more probable; the experimenters know quite well that the permanence of the loss of memory is not to be relied on. They are also well aware that the subject may unexpectedly remember the occurrences of former hyprosis. Largeon, who containly some to have exaggented the danger, suggested a kind of memi preventive inoculation. According to him, everybody

should be tested as to their associationity to deep hypnosis, and the enceptibles should have it suggested to them that

no one will ever be able to hypnotize them.

From time to time a whole series of such cases have been the subject of judicial investigation. In a case published by Wolfram in 1811, a doctor was accused of having assaulted a woman during the magnetic sleep, and of having endeavoured to usual the consequences by poccuring abortion, but when brought to justice he was acquitted. Lidgeois has collected in his book, Do In Suggestion, a series of cases that occurred in France; others are to be tound in Gooddammer's Archivitor 1863, and in F. C. Muller's nook, Dir Psycho-packages are Economician. The number would be slightly increased if some cases of auto-consumbilism were counted among them.

I will only mention a few of the more interesting cases,

One case mentioned by Laigeois is that of a professional negaction of Marseilles, who, in 1833, assurated a girl in the impactic sloop. The exports, Coste and Brootier, with whom the well-known authorities on medical jurisprudence, Devergie and Tandieu, agreed, gave their epision that a magnetized subject might be assurited against her will and without her. ronsciouscess. The case of Eastellas in 1864, reported by Prosper Dispine, is better known. Liegeois refers the case to suggestion. Cantellan must have suggested to his victim, loughing H, to love him trust him, etc. But we can quite well understand what happened without referring to any special aggrestive influence; it was merely a case of rape committed on a ligariotic. Castellan was condenned to twelve years' penal servitude upon the report drawn up by Rous and Auban, with whom the doctors Hériart, Paniet, and Théus were atencuated.

The Lévy cine, in 1869, in also increasing. A dential of Rosen, named Lévy, was cleared with assaulting a girl, B., in the magnetic sloop. The case is remarkable, because the girl's mother was present and noticed nothing. Lovy bad placed his dentiat's chair so that what he was doing could not be seen. Brocardel gave his opinion on the case and Levy was imprisoned for ten years. But the case certainly gave the to much conjecture. Levy admitted the intimacy but desied that he had hypnonized the girl; she was perfectly willing. As Krafts-Etsing remarks, "it is impossible to decide on arientific grounds whether she was hypnotized or not." Maschie also

thinks that this case was never properly cleared up, and

Becauted evinced some doubts at the trial.

The Maisone case, of which Schrenck-Notzing has given a detailed account, has recently attracted considerable attention (1901) Mairrone, who advertised in the papers as a magnetopath and nature-doctor, treated a certain girl, Marie E. He was accused of inflacing her to Elicit intercourse while in the hypnotic state. Although all the specialists called in, including Schronck-Notzing, expressed the opinion that the girl was an unwilling participant in the act, the Jary acquitted the defendant. Obviously the weak-minded Mane B. did not strike the jury as being a particularly reliable witness, especially concerning events supposed to have taken place while she was hypnotized. Quite recordy a magnetopath in Hanover was accused of assaulting two girls whom he had deprived of willpower by hypotosis. The trial, at which Brum, Schwabe, and Delius appeared as experts, ended in the prisoner being condemned for an attempted offence against morality. In a case reported from Buda Pesth, in 1401, a woman was said to have been seduced by being shown a phitograph, with the result that she became neurotic. A few years ago a manufactions of bacycles in Vienna was punished for acducing several girls while they were in the hypnotic state. A case of this kind occurred in Berne, in 1903, in which a nature-doctor, R., was accused of committing a number of assaults on girls. R. was convicted of hypothesing and assaulting, while they were unconscious, girls and married women who cause to him to be treated for some disease or other. Some of the witnesses in the case had been assaulted by R. years before, and when asked by the judge why they had not complained to the police at the time, replied that R. had forbidden them to do so. As a proof that such a command may retain its force for a time, at least, without the aid of hypnosis, I should like to call attention to the number of cases in which children are forbidden by servants to tell their parents certain things. Parents would others be very much surprised if they were only aware what their children know but conceal from there at a scream's hidding. Even a grown-up person sometimes feels so awared by another that he obeys the latter's order not to disclose anything.

I was once called in as an expert in the case of a charlatan who advertised that he treated disease by auggestion and hyperosis. He was no cased of having forced asveral women to sleep with him. In one of the cases the comming magnitude had so steem a suspicion that the victim had been hyperetized, that he asked me at the outset of the examination to make a very careful investigation of all the circumstances of the case. After taking every point into-consideration, I was only able to white that in all probability an alternat had been made to hypnotiae the woman, but that I could not assert that hypnotis had been induced. The accused, who was very importunite the first time the patient visited him, had on the second occasion suddenly sented her by the shoulders, placed her hands on his shoulders, then stared hard at her, forced her towards the sofe, and finally thrown her on it. At the same time she stated at him. The whole procedure was reminiscent of fractration (cf. p. 73). When we consider what the accused did, and all the other facts that came out during the investigation, we can only conclude that at the most an attempt at

typnosis had been made.

There are, moreover, rature in which girls assert they have been amunited although nothing of the kind has taken place. Some of these appear to be the result of nato-suggestion. It may have been so in a case in which the public prosecutor referred to me about a report sent in by my draw tracar, De. Hirschlaff, during my absence, and that led to the matter being discussed. A gul had told Dr. Hirschlaff that she had been hypnotized and rendered assente by some man. Hinchlaff then hypothized ber himself and was convinced from the detailed statements she made in hypnosis that there was no objective ground whatever for the charge. It is quite possible that the girl believed the charge to be true even when she was in the waking state. The case reported by William Lee Howard was probably of a similar nature. Two girls who were employed by a travelling hypnotizer in his experiments, fell into a condition of hysterical auto-hypnosis, and accused Dr. Picken of seducing them while they were in the hypnotic state. Judge Bailey applied to Howard, who came to the conclusion that the case was one of auto-suggestive selfdelusion.

But there are other cause in which there is nothing of the kind first mentioned: the woman invents the hypnesis, or at least the rape, simply to hide a fine-put she has made, to extert money, to make herself appear interesting, or for some

reher reason. Taplicu had already seen a case of that kind in which a stateen year old girl brought an obviously false charge. Another case of this nature was reported on by Ludine in General in 1882. The supposed offender was acquitted, as the accusation was probably take. I have frequently seen such cases, and have found that it is not always quite only to explain them. A case that came before the court in a town of Southwest Germany not long ago was obviously difficult; a doctor was charged with hypnothing a young girl by stroking her forehead and then behaving indecently to her. Edinger, who was called as an expert witness, admitted that the case might possibly be one of auto-suggested delminn. Schrenck-Netring has also published a case in which a hypnotized child was supposed to have been used for immunit purposes. But Schrenck-Nothing came to the conclusion that it was a case of retresartive falsification of the memory, or perhaps even of conscious simulation. Certainly we must exercise great care holore assuming that there is conscious lying on the part of the accuser in such a case. The confused notions of hypnosis and suggestion that are still so prevalent make it quite possible. for a woman to mistake intense occual excitement for Improvis. and this appears all the more likely when we come to consider that textual excitement, when artificially aroused, renders a girl quite as incumalite of offering resistance as hypnosis or seggestion. Of course, from the human point of view we may be charitably inclined in such cases, but as experts we must rigidly distinguish between them and bypnoses. Exymin's case, tried at Munich in December 1304, belongs here. Cayrolic, who had studied hypnosis and animal magnetism, made the acquaintance of Baroness X. He was charged with seducing her by means of post-hypnotic suggestion. This was followed by a sham marriage ceremony performed by one of his acquaintances, a man named Wanalsky. The jury acquitted Ceseski of having committed an offence against morality, last he was condemsed to three years' imprisonment for his conduct in respect of the mock marriage. The opinions expressed by the experts engaged in the case were somewhat at variance. Geathey took up the standpoint that the faroness's lose was not normal, but hypnotic; her love was account by Crenth's declaration of love, which he mide while she was in hypnosis. Although Schrenn's Nothing and Prepar expressed the same view, I think that Hirt was right in ascribing very little impostures to hypnenia in this case. To my mind the most probable explanation is that the baroness and fall in love with Crymic, and that the question of hyperois was only introduced into the caso later on when it became known that the accused and devoted much time to the study of that subject. He may possibly have made use of post-hypnotic suggestion; but I do not think that was recessary, considering the terms on which the parties stood. But attention must certainly be called to the dangers of ecapperation where hypnosis is concerned, and this view is in nowing affected by the fact that the relatives of a girl who has been criminally assoulted, and very often the gill herself, are firmly convinced that she was hypnotised. Just us come strong perfume used to be considered the overpowering agent in cases of criminal awardt in the train, so nowadays hypercan is unjustly blamed; though we must at once admit that such assaults may be, and frequently have been, made during hypnosis. All I want to warn against in the tendency to lend too ready an our to such reports.

When the facts of any such case are clear, the legal decision to be arrived at should present no difficulties. Here the following provisions of the Criminal Code would apply:—

# 1 156, Sin =

(2) Any men who has estudied connection with a female who is deprived at all opener, or whit is unconstitute or instee, that he presided with penal serviceds up to ben years.

## \$ 127 of the Criminal Con-

Anybody who by bree or threats enhancing danger to 15s and that brees a female to have existing transaction with him, or who has criminal connection with a mourae whom he has departed of will preser or rendered an autison for his purpose, whill be purished with point services.

### 1 175 15 Ale Colonial Colo.

Should may of the acts surnationed in \$1 mpt and 199 had to the draft of the intered party, the problement whill be penul serviced for \$10, or for a posted of not less than ton years.

These paragraphs give us the punishment that enforced illest intercourse with a person deprived of will or in an unconscious state speaks. But even if, as we have seen, there is no question of unconsciousness in hypnosis, but only of a disturbance of consciousness, and also that she deprivation of will

has its limits, we must abide by the printerology of the Crimmal Code, which differs from that of psychology. Different mennings are given to the idea "deprivation of will." Casper and Liman thought that the law intended by the term "deprivation of will" to present persons who are mentally meapable of understanding the criminal patters of certain acts. This would include persons who are easily hypnotised. Krafft-Elbing certainly thinks that deprivation of will as mentioped in 1 136. sec. z, should be limited to those cases in which it is physically impossible for the person assumed to offer resistance. But since a physical impediment may be of mercal origin-as, for instance, would be the case in paralysis caused by suggestionthis interpretation would place many hypnotic states within the meaning of the paragraph. Nevertheless, other cases might present difficulties. The question of deprivation of will has recently been discussed in all its details by Aschaffenburg in Hothe's Hawlined for probatilishin Psychiatric, Auchaffenburz contests Becker's definition of deprivation of will as a morbid state of mental activity which is not produced by mental disease, but in which freewill cannot be expected in respect to certain actions (several misuse in this crue), and he interprets the idea of deprivation of will as follows:- A women who cannot be described as mentally diseased, but whose hodily and mental condition renders her incorpable of exercising her will in respect to sexual advances, in to be considered as deprived of her sill power. At the same time, Aschafinburg gives a definition of unconsciousness that implies that the inhibition of a person's power of resistance must depend on the state of his consciousness. At all events, there should be no difficulty in including hypnosis in the state of deprivation of will in the armse of the above-mentioned paragraphs. In those cases of deep hypnosis in which, as we have seen, these in disturbance of self-consciousness, a state of unconstitueness of the rapire implied in those paragraphs would necessarily have to be admitted.

It is measured to note difficult to decide from his second excitement that is settlettally produced about the considered a condition of depoints of will within the meaning of jil 176 and 177. The above question was also distanced by me in the case I have already mentioned, in which I was called upon to depoint an expert opinion on a criminal amount that has apparently been examinated on a goal who was beyondered, on account of the enterpolations to which the goal who was beyondered, on account, apparently for the purpose of exciting has accountly. The of the witnesses

even expressly declared that the account had only made digital explications for the purpose of rendering her amenable to his denice. These can be no maintee of clouds that when around authorized him ocached a causal degree the will become made to retial the lifeto account to provent the action 200H. But it must be left to justim to decide whether the paragraphs necessioned apply in each other. At all events, this hind of depression of still has authors to de with hyperan.

But there are cases that seem to us offences against worshity and yet are not deemed punishable according to the Criminal Code. A case of this kind actually occurred in Berlin, or at least was reported to the authorities as such. A boy aged afteen asserted be laid been hypnotical by a gottleman, who had then committed an annavaral offence on him while he was in the hypnotic state. The authorities came to me for my opinion, and I expressed my constitute that the boy was lying; apparently he had stayed away from home too long, and then had invested the years as an excuse for his absence. Still, such a case might really happen, and would come under paragraph 15c, which deals with definition of character. It could hardly be considered a punishable offence against morality, for \$ 276, sec. 3, of the Criminal Code only provides for penishment up to ten years' penal servitude in cases of unnatural effences committed on persons under fourteen years of age, and sec. a of that paragraph prescribes the same punishment for any one who forces a women to illicit inter-course while she is deprived of will pe in an unconscious state. It would therefore appear from the paragraphs that usuatural offences committed an hypnotized or narcotized persons who are over fourteen years of age are not punishable.

Among other punishable offences against hypothics I may mention bodily injury, which in some cases might be caused intentionally—by post-largeatic suggestion, for instance. We have seen that paralyses, loss of memory, etc., may be thus brought about. Jendrások naw a case in which post-hypothic paralysis persisted for several days. It is not exactly prohable that these suggestions will over be important from a legal point of view, and Lafforgoe's supposition that a man might try to evade military service by causing a disease to be suggested to him seems to me even more improbable. At all events, the provision of the law as to intentional hedily injury would apply in such cases. It is much more likely for bodily injury to be caused by mattention to the proper precautions. Weishaum

published a case of this kind. A "suggester" named Welmans, who was giving a performance at Insorburg, experimented on L., a schoolloy in the first form at the local high school, Even while the performance was going on L. behaved very strangely. Insomnia followed, and in three days' time L. was found to be mentally desarged and suffering from attacks of scale maria, acute-delesions, and megalomania; and at the end of a year he was still uncored. Although Embacher, Meschede, and Weishaum, the experts called in, came in the conclusion, with which the Court concurred unconditionally, that there was a causal connection between the experiments and the subsequent mental detangement, the defendant was acquitted, because it could not be proved that he had been guilty of regigence. Special attention was drawn to the fact that the President of the Local Government and the police authorities had sanctioned the performance, and that the defendant, thurston, had a right to consider himself justified in undertaking such experiments. On the other hard, a hyproticer and professional healer, who used to give "suggestion-parties" at his house in Hanover, in 1905, was condemned for causing one of his subjects bodily injury through neglect. At these entertainments he had performed most unwarrantable experiments on a work-girl, suggesting among other things that a man would undress in front of her to bothe, then jump into the mater and he drowned. As the girl was taken seriously ill after the experiments, the experimenter was charged and convicted

The quack use of hypnetism also may possibly lead to injury to health. Hirschiaff has communicated numerous observations he has made in this respect. I was called as an expert witness in a criminal case in which a former railwayman who had taken to hypneticing had apparently brought on an attack of acute mental disease is a patient whom he had hypnetised. Although there was much to favour of the view that the mental disorder was produced by hypnetizing, I was markle to state so with absolute certainty. On the strength of my report the case was not proceeded with.

It is still doubtful whether hypnotic suggestion can be used to procure abortion. Although Lichenult's experiences in this respect were negative, Laurent has seported a care in which a student hypnorture has course whom he had got into trouble,

and successful in procuring abortion by suggestion.

It has also been asked (Roux-Preissiness) whether sucide might not be canned by suggestion; on theoretical grounds and from practical especience I agree with Krafft-Ebing that it would be possible provided the suggestion were admitty made. There was a case reported from Russia a short time ago of a young married woman who had admitted to her doctor while she was in the bypnotic state that her husband had suggested to her that the should commit spicide on a certain day, and it was, moreover, to take place after her husband had beavily insured her life in his favour. Of course we mand not believe this or any other many that is not properly substantiated, but of the same time we must admit that there is nothing to preclude the possibility of such a raggestion being made. A case described by Nacke under the heading "Spirits by Suggestion" was obviously somewhat different. A Parisian student fell in loss with a married woman and his love was returned. He received a letter from the woman selling him to commit stricide, and he did so. Nicke has properly criticised this case, which was very imperfectly reported, and I think it very doubtful whether any

suggestion was the resontial cause of the suicids.

The question has also been frequently discussed whether a person might not be murdered by menus of hypnosis. In one experiment Bramwell observed the pulse rate drop to 40 beats and then rise to 150. He thinks that these limits might have been exceeded, only he was afraid of endangering the subject's List. The possibility of death being produced by hyperoxis was specially discussed in connection with the case of Frintein Ells v. Salamon, who died during hypnesis. Frances v. Salamon was employed by a layman named Neukreum for elisevoyant experiments in the hypnotic condition. She was to diagnose symptoms of discret, and as is well known, people hypnotized for this purpose often feel the symptoms they diagnose in others. In this case Fraulein v. Salamon had to describe the disease of a man who in her opinion was dring, and this produced a strong emotional effect on her, which, by ies influence on the vasconotors and the beart, caused the bears to be emptied of its blood and death enced, Salamon was a vector-and certainly neither the first nor the last victim-not of hypnosis itself, but of that truly modern mixture of notoriety-hunting and refinement of news-torture, of humbog and mysticism, decest and self-deception, frivolity and delirium, which arens interly inseparable from all hyprotic intertainments and experiments." (Kalenburg). Another death supposed to be the result of hyproxis caused great excitoment in America in 1897. A nigger boy, Spingeon Voing, died underly under circumstances that led the authorities to institute inqueries. It appeared that he had frequently been the subject of hyproxic experiment, and that he had laterly suffered from glycomin or diabetes. An attempt was apparently made to establish a connection between the hyprotic experiments and the diabetes, so that the had's death might be ascribed to hyproxis. But in spice of all the eventions of Bower, who conducted the official impairy, and in spite of the investigations of Clark Bell, to whom he applied to throw light on the question, the matter was never explained. No proof could be adduced that the subject's death was even probably due to hyproxis.

In the older literature of entered engression we also find mention made of a few cases in which serious injury to health, and even dente, was socialed in magneticing. I have already measurement the votes on p. 2023. Severe cases of colleges are also hepperry menchaned. In the later years of measurement Varges published took acqueety attention. In the later years of measurement Varges published in a size just (52) in which the subject sellered score colleges, public imperceptible, etc., desire the magnetic sleep. The case potential a costain amount of measurement on one of Kraili Edway observations in which the political, who was later reader, thought she had been postential to believe to me subject sealers, thought she had been postential to be believed. A dangerous colleges resulted from this unconaggestion and was only sured by bypening suggestion. Laforation empressive conductors the practice of magnetism by inserpretamented persons, as a neight lead to the production of manually, cycleges, participal, though and certain is madeen certain.

The hypnetic state might be used to get possession of property illegally. People can be induced hypnetically and post-hypnetically to sign promissory nous, deeds of gift, etc. I reported to the Society of Prussian Medical Officers a case of a man who in the post-hypnetic state peoplesed a donation to the society, and carefully explained in writing that he did it of his own accord, after I had suggested to him that he should think so. Testamentary disposition might be influenced in the same way. A case of this kind occurred in England a few years ago. A lady left her doctor, who was a hypnotist, a large fortune. The will was contented on the ground that its provisions had been suggested by the doctor while the testamic was under his hypnotic inducate. But the validity of the

will was finally recognised, because it was discovered that the partient had nover been hypnotized at all ! I shall upenk later on of the significance of such acts in civil law, when quotieg Bentivegni. As far as the criminal law is concerned a would be difficult to obtain a conviction in each cases. The paragraphs dealing with firms would probably apply in some caux, and occasionally those that treat of embezelement-when, for instance, a certain turn of money is obtained by suggestion but is not returned-but in other cases it would be difficult to establish a penishable ofence. The paragraphs that deal with coercion would hardly be applicable, although the idea of force here includes vio aveyations. Many people will probably cumider this a defect in the criminal law. Berillon in France, in a note dealing with a communication of Merlier concerning the influence of "waking auggestion" on testators, even dosetibes it as a fiew in the law that suggestion so exercised entails no punishment on the perpetrator. But if we were to make the use of every suggestive influence in life a punishable offence, we should be even worse off than we are now.

The question has also been discussed whether it would not be considered an infringement of the rights of the individual. to hypnotice any one against his will. In such a case \$ \$ \$ 50 of the Criminal Gode would have to be considered; it prescribes imprisonment for any one who intentionally or unlawfully confines or deprives another of his or her personal feedom. Now, a hypnotic is deprived of his personal freedom, and therefore in any contrete case it would have to be decided whether the unlawful action of the hypnotiser was not punish. able. A case of this kind was traed in Bayana in 1905; a fourteen-year-old boy had been used for hypnotic experiments without his parents' knowledge, but the indictment for deprivation of liberty fell through. In an earlier case that occurred at Nimberg a similar charge was brought against a commercial traveller who had byproctized a waitness. He also was acquitted because the court "was not satisfied that the accused had been conscious of the elegal nature of his action; he might have been of the opinion that the waltiess was fully aware of the consequences of hypnosis, since he had often carried out such experiments in her presence, and she was

therefore a conserving party \* (Heberle).

Every medical man who has had any considerable experience in the domain of hypnosis has probably come across laymen

who endeasour to ascribe to hypnous anything they and very peculiar, or for some season or other amplication, or that they cannot quite understand. At times 2 is a case of sedection or a mysterious love affair, at others the provisions of a will or the exploitation of some business, that puzzles them. When any lady of rank-in princess, may be falls in loss with a man of the lower classes, there are always plenty of people ready to merice the epople to hypoton, though a is precisely in such cases that ladies are led astray by the influence of sexual love. And we must make a careful distinction between cases of hyperotic or suggestive influence and those which have been so tellingly described by you Krafft Ebing, and so aptly termed sexual bondage by him, in which an individual of the one sex becomes entirely dependent on one of the other through the influence of sexual mipulse. As I have already mentioned, Hirt very properly exposed the notice that there was any question of hypottic influence in the Caynali case. The position seems to have been somewhat similar in the case published by Proper under the hearing, A Reverbasic Case of Fascingtion. A young woman who was married to a Herr v. Peeta was induced by a man named Pandos, who was a friend and relative of her turnand, to knew the latter and blindly follow her reducer. Union we shift the line that demarcacies hypotosis, a case of this kind can only be described as analogous to hypnosis, not as hypnosis itself. When we see that many a woman is strangely affected by the fareign appearance of a man, by his broken speech and poculiar complexion, when we further observe that many women fall in love with bull-fighters and hornamers, that actors are daraceous to some females, and that the male are affords analogous cases, we must be very emelal how we arenhe such processes to the action of hypnesis. And the word "suggestion" must not be turned into a catch word to be applied to any remarkable case in which inflance may have been costed. "To speak of waking suggestion in such cases would be to de every mile the whole des of hypostian. Them would then only remain the old experience that there are people who are easily influenced, which would have to be resindered in some criminal cases but could have no psychiatric significance " (Sussimann).

Some time ago the patents of a young girl came to me because their daughter was altogether under the influence of

an suprincipled man, X., who knew how to get all her money from her. X was not accused of sexual intimucy with the girl, but only of extorting money from her, and this the parents could only ascribe to hypactic influence. Of course, when once such a suspicion crops up, every action, every movement of the person suspected is considered from that point of view alone. Directly the parents observed that X, was looking at their daughter they assumed be was exerting hypnotic influence. It is, of course, quite right to investigate the details of such cases, but we should not think that every striking case of influence is due to hypersia. There are no many other forms of influence that one bumus being may being to bear upon another that we must be very careful before we assume that hypnosis has been employed. And we must place even less reliance on those newspaper reports that are only written to produce a temption. I rotall a case that occurred in Paris, in 1894, in which a manied woman was reported to have found her husband lying motionless at home, and it was said that a burglary had been committed by men who had first hypnotized the husband. Another case of this kind was reported in 1890; a well-known English author was said to have fished a work from a brother literary man whom be had hypnotized, and then published it as his own.

There are important differences of opinion about the offences which hyprotic subjects may be caused to commit. Liegeois thinks this danger very great, while Delbergl, Gillen de la Tourette, Pierre Jasset, Benedikt, Ballet, Foscau de Coarmellen, and Kotscher deay it altogether, and others, Joire, Forel, Eulenburg and Dalley take as intermediate position. Liégeois thinks that about 4 per cent, can be influenced by criminal suggestion; this would give about So,oco people in Berlin. Others, as already observed, deny the danger entirely. In any case we must not be too ready to believe the stories of robberty we find in the newspapers; they are written rather to "make people's flesh casep" or course a screenion than to

advance science.

There is no doubt that subjects may be induced to commit all auto of imaginary crimes to one's study. I have hardly made any such suggestions, and have small experience on the point. In the first place, the continuous repetition of the same experiment is superfluous. If the conditions of the experiment are not charged, it is useless to repeat it merely to confirm what we already know. In the second place, these criminal supportions are repugnant to me, although I do not believe they injure the meral some of the subject, for the supportion may be negatived and forgotten. Thereby, experiments caused out in the study prove nothing, because some trace of consciousness always remains to tell the subject he is playing a comedy (Francia, Delbour), consequently he will offer no resistance. He will more readily try to commit a munder with a piece of paper than with a real dagger. These experiments carried out by Usepcois, Lisbourit, Fourcaux and others in their studies do not, therefore, prove the danger.

Certainly Liegeois has made some such experiments in all apparent earnestness, and in the presence of officers of the law, by hymotic and post-hypnotic suggestion, and even by suggestion in the waking state. He made a girl fire a revolver, which she thought was loaded, at her mother; and another put arsenic in the drink of a relation. Delberal shows good reason for not considering these experiments convincing. Yet we must admit the possibility that a crime may be committed in this way, though we must be on our guard against any maggeration in this respect. For people are so suggestible as to accept the suggestion of a criminal act without repeated hypnotination. It is also true that many would refuse to commit a crime even after a long hypnotic training (Delbord). If Kahler really thought that imperative ideas produced by hyperetic suggestion resemble impulsive ideas of pathological origin, particularly on account of their violence, we cannot agree with his conclusion that post-hypostic imperative ideas never lead to acts of violence, since yothological impulsive ideas do sometimes lead to such acts. According to Gilles de In Torrette we are specially protected from such crimes being committed by the fact that a criminal who suggested any such offence would be no more protected from discovery than if he committed the crime himself. On the other hand, Forel insists that the greatest thanger is that at the time the criminal suggestion is made the subject may be induced to believe that be is arting on his own initiative, and is unaware of any constraint. Still, as most investigators assume, only people whose general moral character renders them capable of committing crimical note could be influenced in this way. Force, however, does not admit this psecondationally. His reade various experiments for the perpose of enlightening a lawyer named Hofelt, who

was writing a dissertation on the connection between hypnotion and criminal law. In one case, for instance, he induced a hypnotic subject to fire everal shots at Hofelt with a revolver that was capped but not loaded. According to Forel, the experiment was so arranged that the hypeotic could not have been conscious that he was only playing at shooting though I think we cannot straightway accept this explanation. It was different, however, in the case of an otherwise modest girl, who was yet induced by Perel to strip to the want in the presence of a strange man. Forel thinks that this experiment disposes of the objection that only such acts can be successfully suggested in hypnosis as are agreeable to the subject's moral disposition. I myself think that we must admit that in exceptional cases it is possible for a person to be induced to commit acts that are contrary to his disposition, but that there is not any great general danger from orininal suggestion. In any case the others within which such suggestion would work must necessarily be a very limited one. "We may take it as a general rule, that the criminal acts we should have to deal with here are those which demand no special aptitude on the part of the agent-no particular qualification, that is to saynor any special preparation, nor such complicated manipulations as would involve deliberation and perspecteity, not yet the cooperation of others " (M. Weiss).

In remarking just now that the general importance of suggestion in criminal cases did not appear to me very great. I would yet make it clear that we must carefully distinguish between its general practical importance and its significance in any special case. For the above-named reasons the general importance is slight. But it is quite another question whether hyperotic suggestion must not be taken into serious consideration in a concrete case in which, for instance, the accused person has not only been constantly hyperoticed, but the hyperotice is also known to derive considerable advantages from the crime, whilst other encountances point to his participation. And this question we must certainly answer in the affirmative.

The question as to whether bypartle suggestion can play a part in the commissions of a relass has fraquency been before the courts in second years. To these belongs the case of Eyrand and Bouquiet, who were accused in 1850 of nearlieing an amplope of the courts, named Eyrand. Secrets, the family doctor of the Boss-parks, inframed the court that he had frequently hypersised the accused, and Liegenis, who was called as an expert, declared.

in opposition to the opinion expressed by Research), Moses, and Ealler, that the woman Dompard and nonmitted the treme under the reference of a hyperstic suggestion she had received from his later Lyrand. Both of the account were constitued. Byrand was received, and Bourgard annalmental to twesty price' proof servitude, from which the was relianted their strong Chitteen pours. After she came out of prison, Lilyrois unfoutful her to a satisfied of hypnoxic experiments, the result of which was to strengthen the opinion he had beyond in the first instance. Although the or fast redshel, he family succeeded in making forequest, while in the hypothic state. secart the scame in which the come was originally suggested to less. The Water and Chemitigs suits also excited a possiderable amount of introst. In the former, a Mademic Weits, in Algiera, attempted to points for husband, and was condemned to everip poors' imprisonment, whereapon the committed solelle by potent. Linguist believes this was a case of post-hypnotic ungreaten received by the sensor from her livery but the possibility of this was not uniously investigated by the court. In the other case a mirried women who had permusely less a malet wile and maker was killed by a sum, Chambige, who had fallen in love with her, and who afterwards afterprist saleids. Linguis's explanation is that the sense. was hypocised by Chambler, and then by congresses induced to Lorent her hardened and elithious and fall in love with from Chambler. Linguisaupports this argument by the defence put forward by the advocate Doner,

In another care, A. Voicin expressed the expert opinion that a currain woman normed of their land been included by supportion to commit the course, and was therefore irresponsible. It is impossible to decide from the official report of this care whether it was one of hypothese of all making

sniggention.

Hypnotic suggestion has also often been made a percent in other ariminal cases. A few years ago a woman was charged in Liegalts with attempting to surder her husband. Here this the possibility of hypnics being in some was connected with the cross was discussed. It rement at first its though it was saturated to passent the accused lover in the light of a victim to the hypostic suggestions of the usuals, because he had after here hyposthied, but as the case proceeded it was shown that hyposis was only med by prove that his moutal capacity was of a very low archet. These was a case a abort time upo in Borlin in which a magnetayath, Reichel, and a sick widow, with whom he was on intimone terms, were account of submring witnesses. One of the persons involved in the case expressed the opinion that the widow was under the hypnotic infinince of her fellowprisoner. In a case that opposed in Victora, Caroline Ultrick, a Fernet denote, who was accord of slander, morried that she was hypoclast by her fundiced and wrote the alanderous letters while she was in that state. It was this very cure that showed what confused notices about bypassis. cheals in the public mind.

A few years ago I was saided in as on expert in a case of this kind in Germany. A young glot, X., had falles into the clutches of a processor, Y., who gave episitualistic stances, and who desire the gall to proceed and errors by means of automatic (i) writing. The woman Y. and to write from the commands of the spirits, and a marrier of the special write inproceed minutely detailing who X. was to the The need (ii) on frustral
ground, for the grid was a apprintist and therefore latitude that the was
bound to do all that the spirits unlined. V. was greatly mainted by the

artistic ambition of the girl, who had been trained as a singer. Fame, homer, and noises were primited the girl if the world cely obey the spirit' commands. The girl consequently became intrasts with all hads of non, and V. always leak the money. Finally, X. such a blackmiller letter to the man who had him reduced him. That letter also was intrigued by V. Similarly, X. In heavelf he induced to stronger at process absention, to be gusty of launch of contract, etc., at the inequation of the spiritu. This among influence, as we mait still it, that V. saveled over the girl X., caused many people to think of hypersic influence, particularly in temperate to the apprintmental source. X's own father family give information to the police, so us to release his doughter from the correlations time to the police, so us to release his doughter from the correlations inclusive of the woman V. But constitute consideration of all the circumstances of the case gives so ground for considering that the girl had been hypostically it was rather a case of the aspectitious tendencies of an assistantly across girl being anticky sifierd by a preserve for her own gate.

There are many other priminal actions in commercian with which the possibility of hypersic suggestion having played a part has been discussed. This happened some system ago in the chatge of marder brought against two men in Kannes, named Gosy and Mardonald. Gosy, who found a costain Turton as a harms witness in a case in which he was interested, artially induced Mardonald to mercies Pattern by expressing the latter to be an enemy of his. Mardonald to Mardonald was arquited, but their role an enemy of his beautiful. Mardonald was arquited, but their cole as confirmed in thosh. It was forquestly argued as the time in the press that hypocide suggestion had been employed, though in reality the name was of a tourly different entere. The sum of the surregular late play of framework anguestic had been despited in the price of hyperical parties, but assumed that mother kind of influence had been hamped.

into play (William Historia.

Since we cannot unconditionally flony the possibility of a crime being brought about by hyperstic or post-hyperstic suggestion, it behaves us to consider what the legal position would be in such cases, and we must at the same time distinguish between an action carried out in hypersis and one

that is the result of post-trypnotic suggestion.

It is certainly less likely that such an act will be performed in hypnoxis than pest-hypnotically. But the former possibility is by no means entirely excluded. We have only to think of spirotalist mediums who in a state of trance, which is to be considered an auto-hypnoxis, decrive their fellow-men, no matter whether they do so at the special suggestion of their accomplices or aportaneously. (I will, reoscover, take this opportunity of adding that I am contrinced that many cases of supposed trance are only simulations of that state.) Neverteeless, we have to discuss the question of a criminal action being carried out by a person who is in the hypnotic state. Par. 51 of the Criminal Code would apply here:

An action shall not be penishable when the agent at the time in commirred is was in a state of less of commissioners, or of each a morbid distortions of his morbid facultum as to confer him incapable of few toleron.

According to Schwartzer, Casper, and Liman, loss of conscrossess includes abnormalities of consciousness, but according so Krafft-Ehing it means abnormality of the self-consciousness. It was the intention of our law-givers to include in the idea of loss of comeloumess certain conditions that cannot be attrightway considered morbid disturbances of the mental activity-such as states of druskenness, certain emotional states, sommambulic conditions, etc. (Casper, Limas, Kenli-Eding). There would therefore not be the slightest diwestry in including hypnoxis here. But the position would be different if the incriminating action were performed through the agency of hyprotic suggestion. We have already seen (p. 165 et 242.) that the mental states in which post-hypnotic suggestions are realized differ. Now the state is normal now an abacemal one. Whether we consider the latter un cedinary hypnosis, or a special condition, as Liégeois, Beaunis, and Gurney do, is immaterial from the forentic point of view, since I sa might apply at any time.

Whether § 52, which declars that an action is not punishable when the agent is drives thereto by some immistible force, would include those cases in which a suggestion is carried out in the waking state must be left to jurises to decide, and their views as to whether irresimilate force only applies to physical influence differ compiderably. Obligation has expressed himself in favour of the "physical force" view, wherein Neumetster would apply § 52 to cases of hypostic suggestion. Kraft-Ebirg had much earlier come to the conclusion that many cases of impulsive action should be considered as the effect of compulsion by investible force in the meaning of

\$ 500

I here here, and size previously (p. 166), called those states wishing units in which a hypotetic suggestion was control not when the mental state was not procepitally observed, except on the one point. But I sale did this to avoid making the discussion too complessed. This question was at first passed over as unimportant, but Bentireges has recently called special attention to it. I will therefore now associate whether there is a mental state which may be salled normal in spite of inequilarity or one point, as would be the case when suggestions are carried out in an appropriate normal state.

We will take a simple case. I try to X, in hypercois, "When you wake you will give A a labor in the sile." X, wakes and performs the suggested attime and he will accept no other suggestion either below, during, or after the act. Thus it appears that he is quite normal except on the one point. But modern payelimity, and fraentic psychs-yathribgy in particular, my that a man carnot be mentally almoraal on one punt only; they rather suppore a mental disturbance showing itself on our point, which is a symptom of general mental disturbance (Kraff-Eleng, Morel, Mandalay, etc., etc.). Therefore the state, in comping out a post bypassic suggestion, would spally be absumal, though it appeared normal, as Bentivegel But this author further thinks that this certainly cannot be supposed in all cases of post-hymotic suggestion, otherwise we should be ubligad to think every man who accepted a therapeutic possiblymotic toggestion was in an abnormal thrie when he cantied it out. Take the following one, he notions: Y, is by motived in my very water soon, and I tell him to say in half as hore, "Your coose is frightfully hot." New supposing it is smilly hot in my succes, the carrying out of this post hyprotic regoriton would by no more softer to prove that the subject had again fallen mae an absormal state.

The spection we have now to consider it how we are to decide whether the subject is in a normal or an abasemal state. A diagnostic point is difficult to find, but it seems to me that Bestivegues in the only one we have to guide us, although it at times depends on subjective distinctions. He says, "The state while sarrying our a post-hypothic suggestion can only he thought normal when the motive force developed by the suggestion. is such as guy also be explained by the normal disposition of the subject, and when it is not to opposed to reality that the normal individual would at once discover and correct it." According to the last cleare, posthypertic sense-delesions without a renewed state of suppositivity would at once prove an abase usual mental state, and particularly so in those gases of segmedelesion to which Beginners merites a physiological and not a pulsological character. An abasemal state of consciousness would also have to be assemed for the corring out of remerous post-legentin acts, but not for all, even when these is no senewed state of suggestibility. Let us, for instance, tempides the two cases mentioned above. One post-legionia engenium was that X, should give A, a blow in the tills. Let us suppose that X, is a peaceful man and not illustrated towards A ; then the motive of X.'s act would be inexplicable from his normal disposition; consequently, apprening to Bendregal, his purchypautic state would be abnormal. Y/s manck about the heat was different. It was a natural remark, supposing that the runn was really warm. Commquently, we have no remon to conclude that the carrying out of a post-trymotic act presupposes a generally absential state. In many cases the question is no doubt difficult in deenle, because "normal disposition" is hard to drive. However, Benthegal has at least given as an essential point of view boss which these pest hypertic suggestions may be judged, and one which is many cases will enable us to decide whether the subject's mortal state in normal or abnormal.

Having learned how to judge post-hypnotic states in which there are no signs of a fresh hypnosis, we will return to the byprotic crimes may be committed in an apparently normal state, but that § 52 of the Criminal Code would not save such persons from peninfraent, although they were driven to commit the acts by some irrenisable power. But according to Bentivegn's explanations, we might persons even here assume a state of loss of consciousness within the meaning of § 51, but then we should have so make it quite clear that we were giving a wider meaning to the idea contained in the paragraph than was originally intended. Still, from a practical point of view such an interpretation of the paragraph is a rational one.

Desperim, in France, expresses the opinion that any person who commits a crime by hypnotic or post-hypnotic suggestion is punishable, because he might have some the possibility of such a suggestion. Yet according to Liferathal such a position is quite internable in Germany. It would certainly be quite contrary to the whole spirit of the German Criminal Code to punish a person for an act committed when he was in a state

of irresponsibility and without intention,

The case would be different if the subject had caused the criminal act to be suggested to him in hypotols, perhaps with the view of carrying it out more crimageously. Literated thinks that in this case the hypotole would be perintralle. The power of self-determination would be normal at the moment of decision. The induction of the hypotole would be the cause of the act, and therefore the hypotole ought to be penished.

Campil, who has theroughly discussed the different legal questions connected with hypnosis, distinguishes between the standpoints of two schools—the classical and the authropological. According to the former, there is no guilt in the last mentioned case, as there can be no reflection when the crime is committed; according to the latter, the criminal treat has punished because such people as he are disagreess to

society.

Of course, every one who accepts a criminal eagportion in hypnosis and then earnies it out would not receive the benefit

<sup>&</sup>lt;sup>1</sup> There are the names of the two schools of criminology in Endys than charital occupancy (species of will, and the inchargeous does not be blowers, the has named also agrees to the problemous of the criminal; has any because to is dispurous to society, not because his will in free when he commits the offence.

of 30 52 and 52 of the Chimical Law. It would be essential that the depth of the hypnosis and the suggestibility of the subject satisfied the relative conditions contained in \$52, which demand the exclusion of free volution, or a morbid disturbance of the spental activity if the action is to go terpunished. A light state of hypnosis would in nowine satisfy those conditions; and similarly, when applying \$52, we should have to consider whether the power was really irresimiliar.

In the foregoing I have discussed the quantion whether and to what extent a subject is responsible who commits an offence either in hypnotic or from post-hypnotic suggestion. Another question to be considered concerns the responsibility of the person who makes the suggestion. The logal decision of this question would depend upon whether the subject were responsible or not according to either lige or lige. If the subject is not responsible, the person who made the suggestion would have to be considered the agent. Any person who names a lumine to commit a crime is considered the actual agent (Litzt) and not mere inciter, because a luratic, being irresponsible, cannot commit a crope. It would be the same, of course, with a subject who commits a suggested crime either is hypnosis or post-hypnotically, and is not comidered answerable. It is only when the subject who common the crime is punishable-as, for instance, when the hypnosis is not deep grough, or the suggestibility insufficient, to exclude responsibility-that the person who made the suggestion would have to be comidered merely the instigator of the crime (Preyer, Knaft Ebing, Neumeister). Therefore any person who orders a hypnotic who is still in a condition of responsibility to take anything away from a third party would, if the thirk were carried put, be punishable as the instigator of the crime. Further, as Preyer has pointed out, \$450 of the Criminal Code would probably be applicable, according to ir, it is a punishable offence to instigate the commission of a crime.

The importance of hypotosis in civil law was not seriously comidered at first. Most investigators possed it over, supposing that hypotosis could only be important in criminal law. However, Bernwegel has pur forward the contrary in his work, Do Hypotos and three nindrediffice Baleshow (Leipnic, 1840), and Drucker has also expressed a similar opinion. I know from my own experience that it is no uncommon thing for the

loser in a doubtful legal transaction to mk for a written expert opinion to the effect that his signature, etc., was obtained by hyperotic suggestion. The main points of what follows are on the lines of Bentivega's work, which traches the root of the matter oven in the present day, although it appeared before the civil law was codified. Bentivegal, in discussing hyperotism in its relation to civil law, distinguishes between responsibility in business and liability for damages. The first means such a degree of freedom of will as is necessary for the transaction of luniness in connection with legal affairs. Liability for damages means that degree of freedom of will which causes responsibility for unlawful acts.

Responsibility in business is dealt with in 1 105 sec. a of

the Civil Code:-

A declaratory act or transaction is also insulid if affected while in a mate of lass of consciousness or of two purery disturbance of month activity.

According to Bentivegui, a state of hypnotic suggestibility is enough to exclude responsibility in nutiness; but this certainly pre-supposes a certain depth of hypnosis. Bentivegui also points out that not only such acts as are carried out through hypnotic suggestion are invalid, but that the more existence of hypnotic suggestibility is enough under some circumstances to exclude business responsibility, seen when the acts are not

seggested.

Bentivepri thinks the name about many post-hypnotic states in which anything of the nature of a post-hypnotic staggastion is carried out. Here he makes assertal distinctions. All transactions are invalid which are effected in a post-hypnotic state in which there is renewed suggestability. We may certainly agree with this by season of \$100 sec. a of the Civil Code. Also, according to Bertavegui, the state during the carrying out of a post-hypnotic suggestability is a mitted with forgetfalness of the post-hypnotic act, excludes responsibility, provided the state shows no signs of suggestability. Certainly there are distinctions to be made here. We saw (p. 166) that a person may be apparently awake and yet carry out a post-hypnotic suggestion without remarking it, without falling into a new hypnosis, and calmly talking meanwhile. Whether such post-hypnotic suggestions affect business responsibility is decided by Bentiveges according to the nature of the

raggestion. When the past-hypnotic suggestion is merely a movement or action, which the subject often does automatically at other times, there is no reason to question the responsibility. There are people who have a habit of scribbling on paper. Now, according to Bentisegni, if a person does this post hypnotically he is not unfit for business. But he is unfit when he does post-hypostically what he would not do under normal circumstances. Bertivogni thinks that when the post-hypnotic act is done without renewed suggestibility and without loss of memory, the question becomes very difficult. He thinks that in such a case all depends on the nature of the suggestion. Are the suggested acts, and their possible motives, of such a nature as to be willingly received into the consciousness of the subject and to be generally compatible with the context of his comeiousness, or not? Bentivegni gives the two following countries:- t. A. owes B. Luc, but has forgotten it; in hypnosis he is told to pay R. the money at the first opportunity, which he does posthypnotically. r. C., who is not in good circumstances, is told in hypnosis to make a present of his whole personal property to D, whom he does not like. He wakes, and the idea occurs to him when he sees D.; he regists at first, but finally formally obeys the order. According to Bentivegoi, in example 1, neither responsibility for the particular act nor the capacity for business in general need be doubted, because the suggestion was acceptable to the motives pre-existing in the subject's consciousness. But in example 2, there is a difference; here there must be a revolution in the subject's consciousness before he will obey a suggestion so contrary to his interests. Therefore, Festivegni thinks the responsibility is doubtful, at least as far as the single act is concerned.

In other cases the husiness incapacity is much more extensive, became delusive ideas may be post-hypnotically suggested, which may cause incapacity for business so long as they last, in the more way as do the delusions of the issue. Bentivegni thinks it should be provisionally supposed that a subject who is under the influence of a post-hypnotically suggested idea must be considered unfit for husiness when this idea is of each a kind that its apostaneous recurrence would partially

ce wholly do away with his responsibility.

Finally, besides the post hypnotic suggestions which do not interfere with contocomous, and those which after consciousness, as image ideas do, Bernivegni discusses a third category of suggestions. For example, a subject might be told in hypoman that a particular engraving was an oil-painting. In such a case the error, the inability to perceive the real facts, would have to be considered from the legal point of view—f.e., as faid down in § 119 of the Civil Code, which allows the validity of a statement to be disputed by the person who made it, if there he a presumption that he did to when he was not failly aware of the nature of the case. It is also possible that § 123, which deals with internoonal malicious deception, might apply.

But, as a peneral rule, the objection in such a case would have to be based on the above-mentioned 5 tog sec. 2 of the Civil Code. Only, let it be remembered, this clause of the law must be intelligently interpreted. For even if it only treats in a peneral way of a state of unconsciousness or of disturbance of the mental arrivity, and not of one that excludes ince volution, we must remember—and this is a point referred to by the most different interpretens of the law—its provinces must be considered in conjunction with other laws bearing on the question, and consequently as infinitesimal disturbance of the mental activity, such as may, indeed, to beought about by put hypnotic suggestion or some other occurrence, does not straightway render a declaratory are void.

Besides capacity for business, Dentivegor discusses subdity for damages. This implies an illegal art committed in a responsible state, for which the civil law prescribes indemni-

Scation. But | 827 of the Civil Code states:-

A person who is a state of accommissioners as in a state of morthal dissurbance of moral activity that precludes free vehicles comes injury to another, is not responsible for the largery. Should the posson here placed binaril trasponerty in a state of this restore by the two of quitterest darks or similar moras, then be in responsible for any damage done by him while is this state, as he would be by an act of nephyponer; there is no responsibility when the state was not of his own cereating.

The conclusions drawn above consequently held good for acts entailing liability for damages, but, naturally, all the special provisions of the code have to be considered as well. For instance, I key also under certain circumstances holds a preson liable for damages, who, while in a state of inconsciousness or in such a state of morbid disturbance of his mental activity as precludes free volition, yet causes damage. At all events, there is otherwise no liability for damages for acts done in hypnosis, provided the hypnosis is deep enough. The same holds good for post-typnotic states in which, on the grounds already mentioned, there is no capacity for business. On the other hand, any mue who cames himself to be hypothized only that he may not be responsible for his misdeeds, must make reparation for every damage. Bentivegal has pointed out that the Prussian common law contained clauses applicable in such cases, and the new Civil Code makes no exceptions, as may be seen from § 827, cited above. Ernst Schultze has pointed out that in its original form the puragraph only states that a man who got drunk intentionally would be liable for damage committed by him while in that condition However, Mendel, Lines, and Schmidt had already advised that it would not be right to limit the provisions of the clause to the effects of alcohol, and Lisst, in particular, had proposed the same treatment for any one acting in the hyperotic state or white under the influence of any kind of narcotic, since omission may just as well be the object of an illegal action as comsubstices. And this is the conclusion which has been arrived at in the present day. Therefore, any man who lets himself he hypnotized so that he may tolure another must make remaration for the damage.

Just as the common law formerly held the hyprotiser responsible in certain elecumitances for the damage done by the hyprotic in hyprosis or during the states following it, so in the present day would those clauses of the Ciril Code that deal with degal acts. Bentivegni recognized in a strict application of the provisions of the common law an effective preventive of those empeopricties which might arise from frivolous hyprotisation or the possible employment of hyprosis as a society partition, and

we may say the same for the Civil Code.

Of course, I have been unable to enter into detail on all points; but I have discussed the most important questions from the point of view of the civil law in connection with Bentisepal's Die Biphere and the strike hiller Endewlags, which treats the subject exhausively, and is still, in spite of the new Civil Code, an illuminating treatise on all points in question.

There is another direction in which hyperonis might be of importance in law; it can be used to falsify testimony. By means of entroactive hallucinations, which we discussed in an

entier chapter, subjects can be made to believe, even after they wake, that they have winessed certain scores or perhaps even rrimes. At any rate, there is no theoretical bur to hypnosis being some day used for the purpose of procuring false testimony. Nevertheless, there is no need to overrate this danger, which, indeed, is open to the very same objections as were raised against the employment of hypnotics to commit crimes. It is difficult to conceive a case in which a deeply hypnotised subject would prove a very valuable witness for the hypnotiser in a court of law. And here also we must particularly bear in mind that some detail might easily be omitted when the wimess is receiving his instructions during hypousis, and then the whole fabric would fall to pieces during the hearing in court. But even if the direct importance of hypnotism in influencing testimony is not very great, hypnotism has acquired the very greatest significance as an indirect agent from this point of view. The retro-active hallocination induced by hyperists certainly led to the investigation of the question whether it is not possible to being about taltification of memory without hypnosis, and Bernheim, who was first in the field, proved, about twenty years ago, how easy it is to do so. In this way people can be made to believe that they have witnessed certain episodes-thelts, for example, which only existed in their own imagination.

Bernheim, also, pointed out long ago what precautions should be taken to prevent a judge accepting evidence procured by suggestion. He proposed that witnesses should be tested as to their suggestibility, and that, too, by attempting-of course without hypnosis-to suggest an answer the inaccuracy of which could be easily demonstrated. If it should appear that a nimess was readily enceptible to such suggestions, then the judge should be very camous in accepting his testimony. This advice has received the support of Forel; but although it may appear self-evident to many people, my one who last been in the habit of amonding the courts will admit it is seldom followed in the cut and dried manner in which most evidence is treated. As soon as the retro-active suggestions produced by hypnosis became known, many other authors called attention to similar phenomena in daily life; it is true that the existence of such phenomena was already known, but they had not as a rule been properly appreciated. Lilienthal referred to the training of witnesses. Force to the management

of the different parties in a lawseit by course! to a process that is analogous to retro-active suggestion in hypotosis, Destoir expressed a similar view. Bernheim and Motet compured Monte Scharf, the chief eitness in the Tissa-Edis lawsuit, to a hypnotized person. When he declared he saw his father kill the Christian children he must have been suffering from a falsification of memory resulting from the influence that had been brought to hear on him. Daily life, also, provides m with similar phenomena in other respects. Two parties often assert the exact opposite in cedimary life in perfectly good faith. A well-known proverb says, "The wish is father to the thought." Each party imagines what he wishes, and a gradually-developed delusion of memory is the consequence. We must here include those people who keep on telling a lie until they finally believe it to be the truth. Every time the lie is told the mental image connected with it is reproduced afresh, and the more frequently this occurs, the more vivid does the image become, Similarly there are people in whom we can induce falsification of memory while they are awake, and without their ever having been hypnotized. It is only necessary to impress upon them that some event was really an experience of their own, and they immediately become unable to distinguish truth from fection. It was particularly pointed our long upo by many authors. Moret, Bory, Boardin, Lidgeois, for instance—that children are unreliable witnesses. The same was observed of the hysterical long before the evolution of modern hyprotians. But it was the latter that first showed how carefully we must take retro active suggestion into account, and that much that used often-certainly not always-to be put down to conscious lying, is really attributable to fabilication of memory. This is sometimes due to auto-suggestion, sometimes to external suggestion. Certainly the psychological processes leading to false testimony are often much more complicated. Hans Gross, Miller and others have called attention to the errors of perception which have to be considered at connection with false testimony, but which are underestimated in favour of errors of memory. There may even be real delusions. This ir best shown in the case of those people whom Delbrück describes as mentally abnormal swindlers. In his week, Die Pathologiche Luge und die psychisch abnormen Schwindler, Delbruck deals very thoroughly with such pathological cause, and Kraepelin has also discussed the question in his Lebrhard

stor Provisions. Henneberg, Koppen, Hinrichten, Fritz Hartmann, and others have thrown further light on the question by

their analyses of cases.

As the name ladicates, pathological lying is a morbid process, but the investigations of other arckers have shown that these is also an immense amount of involuntary Ising perpetrated by normal, healthy people. A number of works on this question have appeared during the last few years, partly in scientific journals and purtly also in the daily press, in which the question of witnesses being influenced by suggestion has feequently been discussed in connection with some aspectional trial. Hat it is purricularly the Archie for Kriminolarthyevises (edited by Hanns Gross) and the Bellvage par Prickslogic die Aussige that have contained a number of papers dealing with some special iteres of the question, as, for instance, the differences arising from age and sex, the infraeare of the degree of culture attained, the way in which the impression affects the trustworthiness of the testimony, etc. The psychology of testimony has become a very wide field of inquiry for the investigator. Binet, Henry, L. W. Stern, Wrenchner, Piacock, Jaffe, Lobsien, Lipmann, Heilberg, E. Bernheim, Harm Goos, Minnemann, L. W. Weber, Bogdanoff, Stoom, Cramer, Plinchke, Marie Borst, Schneickert, Radbruch, Agahd, R. Sammer, Rodenwaldt, Siemens, Clapsrède, Schott, Graelin, Rauschburg, and a number of other investigators have contributed materials to the construction of the fabric. Many of these works deal very particularly with the evidence given by children, and I must not miss this opportunity of memionme the valuable investigations made by the Bottin Society of Child-Psychology at the request of Kennies. The bying and the testimony of children have been made the subject of special investigation. Special mergion must here be made of Kemster himself, of Piper, Marrisowski, K. L. Schaefer, and again, quite particularly, of O. Lipmann. These works have laid the foundation of great district in evidence. Let us hope that Sciences may be right in his assumption that the minute analysis of each individual case will enable us to recognize, in the apparently confined man of falso testimony, that which is psychologically legitimate and thus to create a critical diagnostic.

I take this appearantly of exercet hig on historical error that has secondly been cropping more and more into Germany. Representation are made

which would lead me to believe that Blast and L. W. Stern were the first to realize superiments of this kind in the psychology of revisions. Thus D. Lipmans states;- The question whether and in what properly the evening of a reproduced lifer siefers from the corresponding percept is an new problem in morticology. Yet those investigations referred absort igas easy as magazinable to daily life, in which we certainly have recognitely to spends with emilial and complicated memory-images. Blact alone once assessmed to business such experiments in a way that might mid from for remove them from the actualties of life. ("lateralem")-64, as that the results obtained might be to a certain occurs applicable to practical lafe." Ligrences carefules Street as a second originator in this suspect. He goes still further and says:-" This problem of triclinony is, as we see, nest and foremest a question for the jurist and the histories, and Steen true the first to point this out thorrogoly." L. W. Starn himself communicaproblem in applied psychology that this dissentation is intended to be a form convolution." All these microsical statements are in so for fathe that a number of investigators had made experiments relating to the psychology of testimory long before Bitet and Stem did so. Stern's burk appeared in 1928, whereas the works I refer to appeared in the eighties and naturies of the previous century. Not only were such experiments made in those days, her their application in the solutionstation of justice was thoroughly discussed at the time. There were investigation in the domain of hyperdiscuswho made such experiments long before Sters. It is true that hypoction was their starting-point, but they easy mon incognised that very similar literature of memory could be produced without calling in the aid of bapassis. Thus, Bomboiss, of Nancy, and aboudy published in his bank on suggestion that appeared in 1856 arrests experiments of the kind which he had been induced to undertake by the Trans Earlie trial. Even as early as that he and Laignois discounsed that many very complicated scenes could be suggested in subjects as their size personal experiences, even without the industries of hypospia. Among the other irrestigates who at that time weaked in this field I may further westime Bernlon (Norme de F By passings, 1890-921 and John (1898). Also, at the Congruer of Criminal Anthropology held at Geneva in 1841, Biritim had brought forward a proposition to the effect that in legal investigations a committeey procoince should be followed instead of the propert serves method, so so to prevent as far as possible the testimony deformed being influenced by asconstitut vaggetion. In consequence of the metaches that had already ben made in hyparties and suggestion, a mire, who was tried at the Almos Assists in 1850 for number and attempted surrest, was acquisted, togation the Court held that angression had a great deal to do with the englesee. Consequently this field of sources in not quite so new to Lipsum and Ston represent. If they had only looked through the Increase of Imposition and the back murbers of the Altries of Physicalisms, they would have straight way discovered that a great smaller of experimence had already been made in majors to the question of hildfortion of assurery without the me of hyperna. It is certain that these felaferations of memory came about in 180 ways; in some cases the retro-active importaion remode the pulicely to refine almost spintaneously as personal experience of their own assumbing that had nown occurred, but in others the falsifier.

tion only occurred when tome suggestive question had been put to the subject. We may always bear or mind that a dusty distinction has in be small between an univer answer that is the result of suggestion and a

Distriction of paymen.

The foregoing seniarles were not only necessary in the intensits of biatarized tenth and justice, but also because they show the inter-connection that salarite between excessribes in physiology and in hypotolom. It was also phobably no more accident that led finest, in whose impless German investigation game a certain degree of principle, to trudy hypotole suggestion for a long time before he trok up experiments in suggestion on children in the waking state. May be not have been led thereto by his studies in hypotols? Scheenels Noteing, who proved the influence of suggestion on the evidence in Berchool's trust, also began with hypotolom.

The assession has both in the above paragraphs is also instructive in another respect. It shows that professional psychologists were not the first to work at a certain important province of psychological executely it was medical men, more particularly flerabeles and Diellos, who made a restigations in it long before professional psychologists dolt on. This affects a first proof of the fact economics by Hellpath that maders psychology has ecolored great encouragement from medical men.

The foregoing explanations have not been given for the purpose of minimizing the services of modern investigation, those of Stern and Lipeaner to particular; they are important enough, even if it has been proved that the problem was most industrinally stadied before they book is up. These modern investigators have attempted to answer many a question which has not been dealt with by investigators of hypercian. They endeavoured to establish as sharp a distinction as possible between specitwercon and artificial falabilitation of memory. But it proved impossible to do this thoroughly in all cases, for there is a gradual transition from the one form to the other and pay poyal, just as there is with nato-suggestion and external arguments. Modern investigation have also distinguished hence herwoon ensors of monory and crross of proception, and their pametous experiments have contributed guartly to our knowledge of the whole question. Only we must dony that they have any claim to princity in this field of research—an priority even in the practical application to duly his of the sends obtained, much less where jumpendence in concented. It is therefore all the more necessary to remarable that mades research has led to no essential, practical conclusions which had not been drawn by the investigators of hypnotism ten or twenty years ago. The way in which these facts can be united in to make an easeful how we nonest evidence, especially that given by children, bystericals, and even correct individuals. The grantical conclusions that are occasionally dense go much too far and depend upon a harty estimate of insufficient data. the quite apart from this, many of the concluding of modern investigation can only be considered proriginate. Speckt has very properly demounced modern investigators for their lack of system in assunging experiments, for their ministerparation of sealth, and for their too hinty defection of jesportrat conclusions from results that are, at all counts, partially hyperthetical. I myself once had occasion during a discussion on Ligaritan's experiments to point out that he had altogether ignored one of the chief points in connection with children's evidence—eig., the question already runned whether the false drawed was given by the children themselves, or

they were the victims of a seeing idea iminced by suggestive questions. A nigid distinction must be unable between these two points. And so matter how it finally it may be to invive at a decision, the rigid distinction between the two will always be a chief psychological factor.

I now come to the question whether hyperetism can be arade practically useful in a court of justice. No matter how remote this question may appear, it is possible for it to gain importance every day. Indeed this has already been the case on several occasions. In hyperetization in a court of justice allowable at present? Certainly, under some conditions and for some purposes (Lilienthal).

It is interesting at them that at early as altho Erckenson Chatrian, in their may Le Jac? Follower, represented hypotests in a law court, in order to being the mastern of a Pollok Jew to contention; the authorities allowed this experiment to be covered with account. Schemack Nothing mentions a theorems made by Wilmann, according to which account persons at the country of the Mauchilangs are brought to contention in the following numbers—The normal is interested by being made to smoke a pipe of touristick, and then, while the wire that there, a contention is effected from him or the following of the following on the following the state of the following of the fo

The question occasionally asked, whether hyproxism may be ment to obtain from the acrused or from witnesses testimony which they decline to give in the waking state, must, according to German criminal procedure, certainly be answered in the negative. This will not cause any great gap in the proof atificeed, since such a proceeding has no great practical value. As I explained on page 54 of sec., it is only under certain conditions that people can be hypostized against their will; and it is not probable that these favourable conditions would be present in the case of an accused person, or a witness addicted to Ising. But apart from this it is a mistake to suppose that a hypnotic subject straightway lets out his secrets. This supposation is always supported by a few well-known cases; for instance, that of Giraud-Teulon and Demonatay, who had to wake a lady out of hypnosis because she began to tell secrets; and a similar case of a magnetized lady is related by Briefe. de Beismont. Though I do not contest the truth of these cases, I must must that spontaneous chathering is a rare phenomenon. The hypnomiad subject keeps his individuality, and he is silent on matters to does not choose to discuss. A further question, whether the hypnotic subject can be induced to tell by suggestion, must be answered in the affirmative in a

few cases. I have hardly a personal experience to this direction. I once observed a case of lock-jaw when the subject feared some word would escape him. The spins was so

strong that it was impossible to end it artificially.

Lichtenanide declared in #8r6 that he knew of no case of sommanhalism in which indiscreet questions were answered. Delboral goes further, and says that when a hypnotic betrays what he wants to conceal, the apparent confession is false. A woman who confesses infidelity under hypnosis, but denies it in the waking state, Delboral would certainly segard as faithful. At all events, it is a fact that when such questions are put in hypnosis only the answer is saidly suggested, not the beampal of a real secret. According to Danillo, the statements made by hypnosic subjects are so untrustworthy that he would on principle refuse their being admitted in a court of justion.

It is much easier to attain the end in a circuitous way than by simple auggestion; by suggesting a false premise, for example, as I have mentioned on p. 151. Let the subject be told, for instance, that some person is present in whom he would confide, or that the people he does not wish to tell are absent. But all such statements must invariably be received with caution. For it is perfectly certain that hypnotized people can sell falsehoods as well as if they were awake and that subtle webs of falschood are invented in hypnosis. Lombrosotried in one case to obtain a confession of a crime that had been proved though the subject had always denied it. The attempt was uscless; the subject told the same tissue of lies at when awake. Delboruf, Algeri, and Laurent relate similar experiences. In any case, a statement made in hypotosis must be received with caution; it might be an indication, but never a proof.

Du Prei relates the case of a man named K., who was arrested on a charge of murder. There was another prisoner in the same cell, and K., who talked in his along, described the number, and stated he had coronitted it, but when he awake he declared he knew nothing of what had occurred. The other paisoner was then induced to question K., while nalurp, as to all the details of the crime. K. complied. But he was acquitted of the crime of robbery attended by murder, because the confession he made in his sleep could not be used against him. Howard has reported several American cases in which confession made is hypnosis was used to obtain conviction.

A case of this kind occurred in Indianapolis; in another case that happened in California, Gardener was induced to hypomoise a man accused of marder, and is said to have obtained a confession of the murder in that way.

I came take this opportunity of sumadeing that the run of Du Pael's enterments in his works on hypositic origins will not beer serious criticism. He proposed to compley controvant sometabolists in the detection of all citeds of union, simply because he believes is any and story countribensormers. Kreen justly thinks that such views indicate a guiden age of criminology.

Interested by Max Dessoir's experiments in automatic setting, I tried to arrive at results to the same way with a subject whose coment I had persionally obtained. I put a pencil into his hand with the point on a sheet of paper, and ordered him to answer certain questions, but not to write purposals. The subject answered every question in writing, and betrayed every secret. In this way he told me many family secrets without knowing it or wishing it.

Another way in which hypnosis might possibly he used in law, would be to decide whether a person were hypnoticable or not, or to obtain a statement which the accused or the witnesses cannot give in the waking state. Such a case may occur, and

has already been of gractical importance.

Such afatoments in hypnosis would be valuable became subjects remember in later hypnoses all that has occurred in carrier ones. Now, if it is suspected that the subject has been the victim or the instrument of a crime which he forgets in the waking state, it is evident that hypnosism should be used when

there is no other means of clearing up the case.

But according to Liferthal there is certainly a legal limitation here. He thinks an accused person or witness may be hyposticed if he consents. But hypostization is only permisstible to confirm the fact of hypostizability, whereas a judicial examination in hyposis is illegal. Liberthal thinks that a deposition made in hyposis is insumacible, because the testimony of an unswers where is only allowed in certain cases, and an eath could not be administered to a hypostized subject, and it would also be impossible to make him swear to his statement after waking. The statements of an accused person in hyposist are likewise inadmissible, because he should not be compelled to make statements against his will.

But I commit think that Litenthal's view must be essentially modified. In the first place as far as the yatheral assumination of a hyperetheed witness is concerned, the exceptional circumstances in which the testimony of univorsa persons is allowed are mentioned in \$ 56 of the Rules of Criminal Procedure. But as the case of the hypnotized person is not mentioned therein, it would appear that his evidence is actually excluded. But in reality the position is somewhat different. Certainly every witness should be sworn, whether the decision is based on unsworn testimony or not. But as Dalcke has specially pointed not the High Court has not been invariably consistent in this emport; it has on more than one occasion only granted a fresh trial because the verdict was based on unsworn testimony. It is therefore quite possible for a hypnotic witness to be examined without being eworn, provided the wedlet is not made to depend on his statements. But in addition to this there are other points to be comidered. A case may be so thoroughly cleared up by the hypnotismion of a witness at the preliminary investigation that no charge is preferred. But at a preliminary investigation the oath may only be administered under very exceptional circumstances. Finally, specialists when giving evidence at a trial are oftened quotioned on matters which are not the special subject of the trial. It is therefore quite conceivable that a specialist may make hypnotic experiments before the trial and subsequently relate the results in the witness-box. In the case already mentioned, in which Hirschilaff sent in a written opinion in the same terms he had used at the preliminary investigation, the question was one of a woman who had made statements to him in hypotosis. Three is certainly the possibility of the statements of a hypnoticed witness being worked into the evidence in a circultous way.

As far as the accessed is concerned, I certainly think that Lilienthal has overlooked the fact that an accused person cannot be said to testuly against his will when he asks to be hypnotized so that he may give evidence that he cannot give in the waking state. At most this would be testimopy given without the subject's conscious will, but not against his will. Whether there are any legal objections to this I cannot versure to decide, but I wish to point out that according to \$242 of the Rules of Criminal Procedure the accused ought to be fastler examined in the manner had down in \$136, seconding to which he should be given every apportunity of refusing the

exidence against him and of putting forward all the facts that tell in his favour. In a case in which hypnosis is indicated, it would be a contravention of the above paragraphs to omit

hypnotizing the accused.

We will now discuss what should be done when the accused person pleads that he has committed the offerce through hyperatic or post-hyperatic suggestion, or when he says he has been the victim of a crime in hypnosis. Unless such a plea is made hypnosis will never have to be judicially considered. The point requiring comidenation, as Forel points out, is that when the crime is successfully suggested it may also be impressed upon the subject that he shall think he has acted freely. If any segard were paid to it, we should be obliged to take into consideration that every case of crime might be a result of hypnotic suggestion. According to Delbouf, Indeed, this is especially the case when the crime does not in any way benefit the accused. But in reality the question whether the patient was hypnotized or not will only have to be investigated when hyperon is pleaded. But we must not straightway reject the plea merely became it is, as Rians thinks, of great advantage to the accused.

Let us suppose that the accused asserts that he acted under the influence of hypnotic or post hypnotic suggestion. He may perhaps add that he felt a subjective constraint, and that he has other been hypnotized, but that he does not remember any criminal suggestion.

It would then have to be judicially decided—(a) whether the accused was seally hypnotised; (a) whether the commission of a crime was suggested to him in the state; (a) who was the originator of the suggestion; (4) to what degree he was sug-

gentitle (Max Dessoir).

Now, if the statements of witnesses were insufficient, the accused could be hypocitized. Very little, however, would be gained by that; but the hypocisis might be employed in further endeavours to ascertain the truth—I am, of course, assuming that enamination and statements made in hypocosis are legally admissible. Making me of the mentory in hypocosis we should, first of all, ask the accused whether he had been hypocitized previously and by whom, and who had made the criminal suggestion. If no answer was obtained—since the initigator might also have suggested loss of memory—as indicect method must be used, such as Liegeois mentions; the instigator might

be discovered by means of association, if any one were decidedly suspected. He might, for instance, be told to cough, lough, etc., when he saw the instigator or his photograph, or heard his name. I believe the instigator might be detected in this way, and that some such devices would prove successful even when suspicion attached to no one in particular. Automatic switing might also be used—in some cases with certainty of success. I think it certain the aim could be attained by repeated efforts, in spins of loss of memory; for a suggested loss of memory must eventually disappear before repeated containty suggestions, cleverly reads.

Finally, we must endeavour to ascertain the degree of sug-

gestibility by making fresh experiments in neggestion.

But the case would be much more complicated if the instigator of the crime had suggested that the subject should not be hypnoximable by anyhody but homest. Still my own experience makes it seem probable that even such a suggestion might be made ineffectival by repeated opposed suggestions in new hypnoses, supposing, of course, that a repetition of the original suggestion could be prevented. Delbout has expressed the same view. He proposed that a more indirect method of hypnostration should be chosen. The subject should be prevented as far as possible from thinking of the hypnotisation, and the necessary suggestions should only be made causally.

Gotdammer relates that this question of the use of hypnotisms in law called up a discussion in a court of justice between the defending coursel and the coursel for the crown, in a sait at Verona thirty-seven years ago. It was a case of rape in magnetic sleep. There was lost of memory in the waking state. The defending coursel opposed the coursel for the crown, who proposed to a magnetic the assaulted person, but the court agreed to his doing so, as it considered the induction of the magnetic sleep merely as a method of pood. The victim made important statements in the sleep artificially induced, and in corresponde of these the accused was condemsed. A case of Motor's was somewhat different. Motet hypnotised a person accused of unratural offences so as to prove that the accused was probably in a state of unconsciousness when he committed the incriminating acts.

The case would be the same if a person asserted he had been the victim of a crime; here also new hypnosis must under certain circumstances be induced, and if there was loss of memory the question must be cleared up by mamination in

hapmone, supposing the law allowed it.

All this shows what difficulties stand in the way of turning hyperosis to practical account in law. Hyperotization would only result in a certain degree of probability, since, as we have stready seen, (c) there is intentional falsebood in hyperosis; (s) the statements may be influenced by previous suggestions; (3) there is danger that answers may be influenced by the way in which the questions are put; (4) provious suggestion may make

new hypnosis very hard to induce.

As a matter of course, we should take similarly into consideration all the details of the case, such as the act fracti, and the question, who might expect to benefit by the crime. This would be the only way when the person supposed to have been influenced by suggestion is already dead, as is conceivable in a will case. Such a case does not seem to be unlikely, and sould be very difficult for an expert to clear my. In all cases of legal hyprotication the possibility of sinulation must be considered as well as the possibility of a purposely false accuration (Ladame).

Many proposals have been made for avoiding the possible dargers of hypnosis to braith as well as to morelly. As early as 1880 Friedberg demanded that hypnotic experiments should only be allowed in the presence of a doctor. Grasset and others joined him in this contention later on. Delacrois, in France, processed a law making hypnotication legal only for doctors, and then only shes at least two are present. It would be difficult to carry out such regulations: to begin with, the exact limitation of the idea "hypnosis" is still a matter of dispute, and then again, as Preyer thought, other difficulties would be raised by the fact that many people can hypnotical termicises.

All experts—modical men, psychologists, lowyers (Dwacker, Lilenthal, Lidgeois, etc.)—agree that difficulties should not be thrown in the way of the use of hypnosis by doctors for therapeutic purposes. This is recognized in the law that was passed in Belgium at the special instigation of the Minister of Justice, Le Jeune. It certainly does not restrict the permission to hypnotics to doctors. The original draught contained a paragraph according to which the hypnothing of minors and the insane was only to be entrusted to physicians. When this question came to be discussed Merveille expressed.

the opinion that the courts might wink at an evation of the law should a layman hypnotice such a patient at the latter's request. Finally, on the motion of Soupart, it was agreed that by special authorisation an exception might be made in favour of those who were not physicism. The first exception made—it was in freque of Astère Denis—certainly raised a storm of indignation in the Belgian Academy of Medicine, Brasseur basing described the authorization in a parachiet as

state appoint of Charlatanism.

Public exhibitions of hypnotism are, however, forbidden by hw in Belgium. In other ways also the representatives of science have generally opposed such establishes. They ought to be probibled on both moral and hygienic grounds. It is perfectly true that at one time such public exhibitions served to draw the attention of scientists to hypnotism, but nowadays they are more calculated to repol people from the scientific study of that question, since they degrade hypocois into an object of valgar curiosity, instead of alexating it to one of research. For this reason alone it is a good thing that the Prussian Government, acting on the advice of the members of the Scientific Committee on Medical Affairs, permanently suppressed public arbibitions of hypothis in 1881. Unfortunately, hyperoticers know of many ways in which they could evade the law. Since it was only public exhibitions that were mobilized they removed their entertainments to the premises of private societies to which members and their guests have free access. Now, if such a society is only used to screen an evasion of the law, the authorities would have an much right to interfere with a probibited exhibition on its premises as if the performance were publicly advertised. It is difficult to understand why the authorities do not make requisite use of the power extrusted to them. How important this point is may best be judged by the fact that, in a case we have already mentioned, a "suggester" named Weltmann, who was charged with inflicting bodily injury on a subject, was acquitted by the court because the competent authorities had given him permission to perform his experiments. The prohibition as to public exhibitions also applies to the female "dream-dancers" and "sleep-dancers," so many of whom have appeared of recent years. It is obvious that the police authorities, and perhaps also the medical officials who work with them, are even now tricked by the actors who

advertise their performances as experiments in suggestion in the waking state. The hypnotiser is nowadays called a "suggestee." Under the pretest of only making suggestions in the waking state, the "suggestees," Weltmann, Viebig, Ignot, and Krame have carried out ordinary hypnotic experiments in public, and the police authorities have apparently let themselves be decrived by the words "suggestion in the waking state." Force also called attention to this on account of a statement made by Speyrs that in the case of the "suggestee "Krame the experiments were entirely hypnotic, and similarly Neustritter has shown that this was the case and that the subjects were, in a manner, surprised into hypnotic which was not induced in the ordinary way.

If the artheraties and their medical colleagues are not sufficiently accommissed with obser-questions they would do well to commit specialitie, just as the coasts often for. It is impossible for a man to know encrypting. Commo profiles that addition that doctors who are without persons on parties that after that doctors who are without persons and resear, and Error Schultze says the advice is excellent and should be followed in-offsitle. For instance, he declare he would now pass an appellow on the sales of hypotetism in rivel law, there he lasts the accumed form undertaking the their of a specialist. I strongly advice all forestain physicians and psychiatram to take these words to beaut. It will barely necessar the uniformly of one police and medical offsitle if they led to see the real to present.

Public exhibitions have also been objected to in other countries. They were prohibited in Austria as early an 1880, chiefly on account of Hamson's appearance in public. A commission, of which Holmann was a member, expressed a fear that such performances were not smattended with danger to health. The matter was again investigated by the Chief Sanitary Board, and Kraffi Ehing down up a report. On this occasion it was pointed out that an far back in 1705 the Court Chancellor of Vierna had issued a decree placing essential limits to experiments in animal magnetism, and that in 1845 it was agreed, at the sequest of Probasor Lippich, that the employment of animal magnetism should only be sanctioned in the case of qualified medical men. Another official note was published by the Austrian Sanitary Council in 1895—Krafft-Ebing again acted as reporter—dealing with the use of

hypness by spiritualist societies. This note was in favour of the suppression of spiritualistic societies on account of a report sent by Schlager in 1833, in condemnation of such bodies. In Italy public subhistions were forbidden in consequence of Bonato's performances. Notices of prohibition were also issued in Switzerland—at the request of the sanitary authorities of the Canton of Aurgau, among others. The first person to bring about the prohibition of public exhibitions in America.

was Peendergast, a sanitary officer in Cincinnati, etc.

Though I consider the public exhibitions of hypnoxiem that take place in the present day mischievous, I do not wish to depreciate the services of those who have drawn attention to hypnotium by public exhibitions. Just as I refuse to join in the general condemnation of Mesmer, I try, and recommend others to try, to judge such men as Hansen, Bollert, and Donato, fairly. Their motives may have been selfab, but they have certainly been of great service to science. Ow he amount n'exchient jemais que si l'un supprimait de l'histoire de l'hypurtime to quatre so ciny enlywritateurs thrangers à la médative gui out in he force et le courage de prouver les faits our quatre cuine de l'Europe depuis cinquante une, cette histoire s'écreulerait rankrowers.1 To the honour of those mentioned, it should be conversely stated that all three of them were invariably ready to help the representatives of science in the most straightforward way. Heidenhain, Michael, Deibourf, Wernicke, Morselli, and others have emphatically recognized this. None the less, such exhibitions are reprehensible in the present day, and Delbouil's supposition that they are the best means of spreading a knowledge of hypnotism, and thus lessening its dangers, in nowise justifies them. They are accompanied by danger to health, as I have often explained. And it must be added that, from the moral point of view, there is no justification for putting people into a condition which deprives them of will, for no higher object thus for the amusement of the uncultured persons who constitute the major portion of the audience at such exhibitions.

Many Bills dealing with this question have been promoted

I "It should never be forgotten by scientims, that if from the history of hyproties we wiped out the work of velgarization done by four as four countders, which with courage and perseventure have proved in main lasts that applicant the length and herealth of Europe during the past foly year—that before itself a work entirely full to piece."

in Germany. Still I think that the law as it stands is able to present any abuse in this respect. A few years ago Lentner taked whether it would not be advisable to insert in the Criminal Code a clause making the one of hypnosis by swindling quacks and money-grabbing showners a punishable offence, as constituting a danger to health and personal safety. Rosenfeld also considers the existing regulations adequate. At all events it would be difficult to justify the inclusion of such a clause in the Criminal Code unless it were made applicable to those cases in which performers are compelled to risk their lives. Harms Gross proposes that it is the people who organize such performances who should be passished.

Attempts have occasionally been made to restrict the minus of Inprocision by means of administrative measures. This happened, for instance, in Hamburg, where a well-known hypotheer was fixed for advertising his method of treating distance. The Senate of that town issued a decree on on July, 1900, dealing with the practice of medicine by unqualified persons, and § 2 of the decree probabiled the advertisement of methods of treating human complaints, should such methods be calculated to endanger health. In a case at the Hamburg Assirra, I was called in to express my opinion, as an expert, whether hypnosis, as adventised in the case before the court, was to be considered dampesous to health. In the end, no importance was attached to this point, since the court held that the decree of the Senate was inconsistent with the general trade regulations, and therefore still and void.

This completes our consideration of the bearing of hypnoxims on jurisprudence. We have seen the direct practical importance of hypnoxims to jurisprudence, and also that it must not be exaggerated. The legal importance of hypnoxic is similar to the medical. It is not the fact that a hypnoxic can be made the sictim or the instrument of a crime; it is not the fact that we can induce retro-active suggestions hypnoxically and thereby falsily testimony, that is all important in this respect, but rather the number of instructive lessons is jumprudence that hypnoxim has indirectly supplied or with. By teaching in the importance of suggestion is has opened up many a feesh field of view to the scannee of jumprudence. In the instigation of crime, factors that are very similar to show employed in hypnotic suggestion often play a part; indeed, it may be that

suggestions in the waking state, as well as other mental influences, are used. I must again call attention to the case already mentioned, in which a girl's superstitious ideas were used for the purpose of making her a prostitute and a criminal. Of all things, it is superstition that is capable of producing as powerful as influence on the will as hypnotic suggestion can, I have already discussed in detail the importance byprostim.

has acquired in respect to its influence on testimony.

All these are questions for the jurist to consider. He may
be able to think psychologically and knew how far an accused
person's calpability may be lessened, if not relified, by his
suggestibility, and more especially by the anse with which he
can be influenced. On the other hand, he must know how to
weigh the value of evidence. Unfortunately, our professional
jurists are not sufficiently schooled in the psychological way
of thinking. In future, more will have to be demanded in this
tespect, since incapacity to think psychologically is calculated
to make a jurist the agent of injustice, not of justice.

## CHAPTER XL

## HYPNOHIS AND PRECEDENCY.

I mave, in the foregoing part of this book, already discussed the psychological phenomena of hypnosis, and in the last these chapters I have considered the close relation of those phenomena to medicine and jurisproduces. All these considerations show the importance of hypnoxism to the science of psychology itself. For all that, I am now going to mention briefly some particulars concerning the importance of hypnosis

in certain branches of psychological nesearch.

Certainly professional psychologists are not agreed in this respect. Villa thought that experiments on hypnotics have no psychological value because of the totally abnormal conditions ander which they are performed. He considered the first requisite in such an experiment wanting-sit, clear consciousnem on the part of the subject of himself, of his actions, and of the changes that take place in him. Any one who agrees with this view of Villa's must peject child-psychology and animal psychology, and also ferfeit all right to make use of the psychology of savage races or of the results of psycho-pathology. In all these cases self-observation is just as faulty as in hypnosis, and in spite of that these domains of research are considered valuable portions of psychology. Indeed, selfobservation is not at all impossible in hypnosis; on the contrary, we owe many instructive communications on hypnosis, and the theory of hypnosis, to the self-charmation of hypnotized investigators. In this connection Obersteiner, Forei, Blenkr, Marcinowski, Vogt, Wundt, and many others have made material contributions. Villa's standpoint is really not one for discussion. Vogt rightly points out that Durand de Groz fifty years ago, and Charles Righet much later, have shown that seme-delusions can be induced by suggestion without any change whatever taking place in the subject's conscioumera. We are able by means of suggestion to cause inhibition of a perfectly circumscribed form, such, for instance, as anisothesia

of a single finger, or even of one phalange. We can induce loss of memory in respect to a single word or a whole system of ideas, and that, too, without producing any other change in the subject's connecommon or in the least degree influencing his critical faculties (Vogt). When we consider how tradily psychologists have at all times made me of dreams in the investigation of mental life, but that hypnosis is accessible for purposes of experiment in quite a different may to right-dieses, and that when suitable suggestions are made a hypnotic is more capable of self-observation than a person who is dreaming, it follows that Villa's dogmatic decision can only be ascribed either to total ignorance or lack of reflection.

Wundt has ascribed at least a limited amount of importance to hypotine-about as much as to other aboutmal states. He puts it down as a phenomenological method of research, More recently—in his Grandritt der Prachelege—he has gone so far as to admit that partial hyprosis may, under certain circumstances, be considered a general method of research, Bestinis ascribes even a still greater importance to hyprociara in respect to psychology. According to him, hypnotism is to psychologists what vivincetion is so physiologists. Kraffi Ebing and Forci have contessed similar views, and Max Dessor and Munsterberg also gave timely recognition to the psychological. imposessing of hypnotism. Ribot and Wizel have used the hypnotic state for purposes of experiment, and have studied the mental life of persons in that state; they also made use of it for comparing the hypnotic with the non-hypnotic state. They found that hystenesis give more accurate answers in hypnosis than in the waking state.

Vogs has certainly gone much faither. He perceives in hypnotic experiments a possible means of arriving at psychological results of a more universal character. Two conditions are necessary for a hypnotic state to be suitable for this purpose (s) The subject, in order to present as high a degree of suggestibility as possible, must be thrown into as deep a sleep as is compatible with the removal at pleasure of this sleep sublistion f (s) there must be a preservation of the waking state within a certain company, so as to facilitate self-observation on the part of the subject. These conditions are best

Thy desp-inhiliation Vegt means the inhilition promoted by sleep ( this might entity prive materialism, since necessing to the artifactly rules of trenslegy sleep-inhibition would mean the inhibition of chep.

natisfied by that systematic partial preservation of the waking state, which, while affording a thorough waking state for all those elements of comoloumess that appertain to the special experiment, causes a deep sleep for all others. In addition to this. Vogt further recommends the normal waking state in which there is a single realized suggestion; that is to say, a partial systematic state of diamsociation. He obtains the systematic normal preservation of the waking state either by panially waking the subject from a general sleep or by putting him partially to sleep. And he does not even think it either practical or desirable to procure deep sleep, since a lighter degree will give us conditions more advantageous than are to be had in the waking state. Here a state of contracted consciousness, in which the only notionable thing is a marked dulness in response to any commotion, is quite sufficient. By concentrating his attention, a hypnotic, while in these states, is capable of making a very different analysis of mental processes to that which would otherwise lie in his power. Thus, Vogt thinks that we are better able in these states to concentrate our attention on the problem that has to be analyzed in complicated mental processes than we should otherwise be; if, for example, a tuning-fork is struck we first hear a composite, not a simple, sound; we further feel a ternion in our ears, an agreeable or disagreeable feeling, our frame of mind is affected, respiration altered, other organic sensations take place, we may perhaps he able to fix associations called up by the sound, etc., etc. All these phenomena require analyzing, but that can only be done by concentrating the attention on one phenomenon at a time to the exclusion of all others. It would be difficult to find a better way of doing this than by employing a state of partially preserved wakefulness, systematically maintained.

That is the way in which Vogt has made a qualitative analysis of feeling. Wandt, in consequence of his more recent researches, has now rejected the generally accepted notion that our furlings may be classified as those of like and dislike. In his opinion, where phases of feeling are concerned the differentiation lies not merely between like and dislike, but between contention and inhibition, tension and relaxation as well. Vogt now thinks that Wande's view is arbitraritated by the soft-observations of hypothic subjects. According to Vogt, there are two couples of spatition, the one "agreeable and diangreeable," the other "clevating, exhibating, buoying up,

relaxing depressing suddening." He calls the latter accommation of feeling athenic, in contradistinction to the hadematic form. In one of Vogt's imports, the feeling of tension released a certain feeling of volition. Vogt thinks that he is able to refuse the charge that he suggested the analysis to the hypnotized subject in this case by the fact that he was originally an opponent of Wundt's method of analysis, of which he only became an adherent in consequence of the analyses made by hypnotics. Certainly this would not suffice to refute that objection, which, moreover, may also be raised with regard to analyses made in the normal waking state. It would then have to be proved that the subject experimented on had no notion of Wande's analysis, and could not receive, either by word or sign from any one present, any intimation of that analysis. Lowenfeld has raised the further objection, that many of the states used by Yogt in these analyses and averibed by him to hypnosis have nothing to do with that condition. Vogs, by including all mental states in which unemorional suggestions are carried out, gives far too wide a meaning to the concept hypocois. This objection of Lorwerfeld's is fully justified. According to Lewenfeld, Vogt also suggesties the value of hypnosis as a means of psychological research, in that he fails to give due consideration to the question of the possibility of the persons concerned acquiring the power of making such analyses solely by learning and practising the art of olserving, without any hypnotic measures being normary. Finally, we should, according to Leavenfeld, still have to decide whether the analyses, as made by Vogt's subjects, apply generally, or only to the few persons whom they concern. Certainly some of the objections are justified; at least, they have not yet been refeted by Vogt. Comequently, we mint leave the question, whether valuable analytical results have as yet been obtained by means of hypnosis, as provisionally unanswered. But we certainly have no right to reject the method as such; we must, on the contrary, admir that further investigation is called for.

We have to take up the same standpoint in respect to other investigations; such, for example, as those of Ach, who, prompted by Vopt's works, has investigated the capabilities of persons in the state of contracted consciousness about which I spoke on page 130. The performances of the dream dancer, Magdeleine G., led F. E. Otto Schriftee to submit her to a

series of acoustic, psychological, and aesthetic investigations. In this way Schultze was going to examine the chief elements of music and speech separately, and to endeavour to obtain, by psychological asperiments in tone-perception, an answer to the question whether all reactions present the same conformity to law in hyperosis that they do in neemal lale. But the value of the experiments is very considerably discounted by the fact that we are unable to decide what was the to training and what was spontaneous on the part of the subject. Several investigators, Farez and Vogt in particular, have investigated the hypermucia of hyperties psychologically. Vogt studied associations in this way, and thinks that associations, for which the connecting link is wanting in waking life, may be explained by increased power of memory in hypotonia. Hirschlaff certainly denies the existence of hypermucius in hypnosis in tota, and considers the results as more probably due to mintentional suggestion. Other investigations of hypermnesia is hypoctics certainly belong to the domain of psychopathology. I may here recall the experiments of Breuer and Fread, who tried to discover an etiological moment in the production of hysteria by using the increased power of memory exhibited by hypnetics (of page 335). I also refer to what I said (page 340) concerning modern researches in hysteria, to the advancement of which hyperctism has greatly contributed, especially from the psychological point of view. I may further mention the impulsive actions and importains ideas which we are able to induce experimentally by means of post-hyperotic suggestion. The perimption that whit here occurs as the result of posthypnotic external suggestion appears in other cases as a pathological phenomenon produced by auto-suggestion, is certainly justified. Bentivegus has called attention to this affinity between post-bypactic suggestions and many imporative ideas. When the signal for a post-hypnotic action to be performed is perceived, the subject experiences certain impulses in the same way that a morbid person feels impelled to commit murder or exicide at the sight of a knife or of water (Cullerre). Hofer has pointed out the importance of post-hypnotic suggestion to normal psychology as well. He showed how it certainly stimulated research into the aftereffects of conclusions. I must here further refer to the exention of feelings and moods by means of post-hypnotic supposition. We are able to aroune feelings of like and dislike

without the subject being even conscious of the ideas conmeeted with those lealings. A man's whole frame of mind may be made either pleasant or unpleasant without his over knowing what influenced him, since he does not recollect the command he received. This likewise throws light on those cases in every-day life in which people are unable to explain why they feel in a good or bad frame of mind, as the case may be. Hyperceism and the theory of suggestion have also exercised a great inforce on our estimation of synopsia, colour audition, etc. At the present day some of these phenomena are very properly considered the result of sug-gestion; others may be referred to associations of a purely psychological character, but not on that account attributable to suggestion. Others may possibly have a different origin-one of a purely physiological nature. At all events, the possibility of such phenomena originating in auto-suggestions was first put in its true light by hypnotism. Hypnosism has also done much to promote the study of sleep, and especially of streams. By means of post-hypnoxic reggestion we are certainly able to

inflace any docum we will,

There is another direction in which hypnotism has acquired importance. This brings me to the theory of primary and secondary consciousness. That there are subconscious mental acts was known long before the advent of modern hypnotism. But what we one to hypnotism is a new, almost ideal method of putting such acts to the test of experiment. In this connection hypnotism has proved most fruitful. Post-hypnotic suggestion shows us how delicate the workings of the secondary consciousness sometimes are, and that, too, without there being are question of the presence of those automatic processes that practice inconsciously produces. A hypnotic is told that when he wakes he is to do something or other. He wakes, does not remember what has happened, and yet at the expiration of the hour performs the act more or less punctually. We are able to observe that the process of counting goes on in the secondary consciousness of our subjects; on this point I refer the reader to the experiments described on page 164. How accurately time is sometimes calculated in the secondary consciousness-(e., how the secondary consciousness executes a complicated task-it shown by Delbourfand Bramwell's experiments (p. 103), in which thousands of minutes were counted and estimated. To the superficial observer, or the man who has no experience. of hyprotism, many of these reports must appear incredible; yet these are just the very experiments that have been made, and their details remained, by experienced and critical experimenters—by such a man as Delboud, in particular. Even if such experiments only succeed in a few cases, hyprotism has nevertheless provided as with an excellent method of teiting

the secondary consciousness experimentally.

A few investigators went even further, and thought they were able to prove by means of hypnosis that the composite nature of learners personality is the result of consciousness comisting of two halves, each of which operates more or less independently of the other. As Clement Sokal and S. Landmann pointed out, these experiments have formed the enuminal part of French psychology for a number of years. I mention Binet as first and foremost in this respect, then F. Myers and Gunney in England. In Germany, Max Densoir, who dedicated his Doylog-Iok to the subject, once held similar opinions, but he has latterly modified his views on the plurality of human personality very essentially.

In the same way, hypnotism has shed light on a problem that is usually considered to belong to philosophy, but that yet presents an essentially psychological side; I refer to the question of free-will. Post-hypnotic suggestion has shown the relative worthlessness of the feeling of free-will as a proof of its ex-

istence.

Spinous's saying, "The illusion of free will is nothing but our ignorance of the motives which determine our choice," appears to find striking support in post-hypnotic reggestion. If we suggest to a subject in hypotosis to move a chair when he wakes. he very frequently does as he was told. When asked to find a motive for the act, the subject sometimes replies that he felt compelled to act so, or somotimes says he believes he acted so of his own accord, and gives tour reason or other for his action -anything but post-hypnotic suggestion. This feeling of freedom of will when there is actually an irresistible impulse at work has frequently been used as an argament in support of determinism. We see here that a state has been induced by experiment, in which the subject has the feeling that he is acting freely, while in reality his will has already been directed in a particular manner. Ribot, Forel and others have called aftention to the light that post-hypnotic suggestion has thrown on the problem of free-will. The following experiment that I have

frequently made, and that can be separed by any one on a suitable subject, illustrates the sliming of free-will very clearly. I suggest to a hypnotic subject, X., to try an umbroils on the ground after he wakes. He wakes, and I now tell him to do anything he pleases, but that he is to art entirely of his own free-will; as the same time I give him a folded paper on which I have written what he is to do. X. does what I suggested, and is then much asteriahed to find written on the paper the action he has caused out and in the performance of which he

femly believed he acted of his own free-will.

Of course, we must not exaggerate the importance of these hypnotic experiments, neither should we draw general conclasions about free-will from them; for we may be nearly certain that there will be a feeling of free-will only when the action is agreeable to the individuality of the subject. If, for instance, a morally normal man were told to take another's watch or to commit some other improper act, the feeling of aversion would be arrong enough to suppress the feeling of free-will. A subjective constraint would then be fett. The seeing of freewill is much more likely to be aroused by post-hyperatic suggestion when the acts suggested are indifferent and unimportant than when they are momentous and at the same time conosed to the subject's individuality. We come across something similar in the normal waking state; in that, as Froud has rightly pointed out, the feeling of free-will arises soonest when the proceedings are unimportant, while when more important decisions are concerned the feeling of being enable to act in any but one way almost invariably prodominates. Finally, we must also bewee of exaggerating the importance of hypnotic experiment, since we do not by any means find these deep hypnoses and subjective delucions of the judgment in all subjects. Such subjects are invariably very few in number, and after repeated experiments most of them begin to observe themselves, which makes them conscious of the constraint put upon them. Finally, I must not omit to mention that hyperosis has taught us nothing absolutely new in this respect; for in every-day life, also, we are often able by an agrees manipulation of cocumitances and conditions to give definite guidance to the will of some people without their knowing it. Goethe's saying, "Du gumbes in achiebes, und Du wirst geschoben, "I expresses this fact. I will, moreover, take

<sup>1</sup> Roughly, 4 You think the force is years, -and you are forced."

this opportunity of referring to the set of conjuring. A well-known trick of the conjurer is so allow a card to be drawn from a pack and to guess it at once. The trick is thus explained the speciator thinks he has beely chosen the card, but in snaliny the conjurer has directed him to one in particular, and compelled nim to take it. The conjurer attains this end by putting the card he wishes chosen where it will naturally be the first to be taken up. We have as little right to assert that the hyprotic experiments already described disprove the doctrine of free-will, as we have to consider that the above experiments in waking life do so. Few can have made such experiments often without fresh doubts of freedom of will arising, but from these

doubts to scientific proof is an immense step.

In one very particular respect hypostum has given us a besson of the greatest importance to psychology; it has powed that special precontionary measures must be taken in planning psychological experiments. It has shown that an exsertial source of error in psychological experiments was formerly overlooked or considerably undernsted. The training of hypnotics has thrown light on this source of earns. I must refer the studer to what I said on this question on page 156 of my. here I will only point out once again that a hypnotiser may, often without knowing it, by the tone of his voice or by some tlight movement, cause the hypeotic to exhibit phenomera that at first could only be produced by explicit serbal sugges-tion, and that altogether the signs used by the hypnotiter to cause suggestions may go on memasing in delicacy. A dangerous source of error is provided by the hyunoric's endearour to divine and obey the experimenter's intentions. This observation has also proved useful in non-hypnotic experiments. We certainly knew before the days of hypnotisms that the signs by which A. betrays his thoughts to B. may gradually become more delicate. We see this, for example, in the case of the anhoolboy, who gradually learns how to detect, from the slightest movement made by he master, whether the answer he gave was right or not. We find the same sort of thing in the training of animals—the horse, for instance, in which the rough methods at first employed are gradually toned down until in the end an extremely slight movement made by the trainer produces the same effect that the rougher movemeets did originally. But even if this lessening in the intensity of the signals exists independently of hypnosis, it is the latter

that has shown us how easily neglect of this factor may lead to unconsous conclusions being drawn. The suggestibility of the hyperotic makes these infinitesimal signals specially dangerous in his case. But when once this danger was recognized, greater attention was paid to this source of error in non-hyperotic cases than before. It is certain that many psychological experiments are viriated by the fact that the subject knows what the experimenter wishes. Results are thus brought about that can only be looked upon as the effects of suggestion; they do not depend on the enternal conditions of the experiment, but on what is passing in the mind of the subject. Just as we saw on page 343 of say, that to certain medicaments chemical activity is only ascended because the doctor expects a therapeutic action which he intentionally suggests to the patient, so

is it with psychological experiments.

Perhaps many of the results obtained experimentally in consection with the injurious effects of alcohol belong here, since the subject is only too inclined to present the condition expected by the experimenter. Many experiments have been made... Kohlschütter's were the first... to measure the depth of sleep by the intensity of the sound necessary to wake the sleeper. Ford has pointed out that these experiments prosunothing, since a noise to which a person is accustomed soon loses its power of waking him, whereas gentle but unwented noises wake one at once. In addition to this, we have to consider auto-suggestion as a source of error, particularly the subject's expectation that he will be wakened by some neiter or other, a circumstance that considerably enhances the probability of his being awakened. As early as 1831 Kohl-schutter himself had pointed out that the subject cannot get rid of the feeling of expecting the signal agreed upon. Naturally, these objections call for samest consideration. Certainly Michelson, who has also studied the question, thinks that the manimity of the results already obtained disposes of any importance that might attach to this source of error. There is, indeed, much to be said in favour of Michelson's point of view, although his contention may not propose on an entirely sound have. We must also admit that the experimenter is frequently in anything but a position to exclude the action of suggestion. Consequently, it would be wrong to consider that all the earlier psychological experiments in which suggestion possibly played a part were simply superfloom;

many of there would probably give the same results if suggestion were excluded. If, however, one is unable in every single instance to carry out the most extreme procautionary measures, one paint at least be careful to so do before venturing on fartesching conclusions. We should take Laplace's words to beart, and examine phenomens with all the greater care in proportion to the difficulty we have in accepting them. This principle should guide us in respect to the carlesion of the action of suggestion. An event which at the time of its occurrence created a considerable commotion (I refer to the case of Clever Hans), will show how far we may be led by neglecting the above lesson taught us by hypnotism. If the Berlin psychologist Stumpl, the scientific director of the committee of investigation, had but taken into consideration the brackings of hypotelism he would never have made the fines of admitting that the horse, Clever Ham, had been educated like a boy, not trained like an animal.

Clever Ham mercered questions by tapping his book on the stage; and the observers, some particularly the committee presided over by Stumpt, believed that the answers targed out were the result of due deliberation on the part of the horse, exactly as quirities believe that the spirits hold intelligent intercourse with them by means of "rape." One tap denoted a, two taps & three taps c, etc.; or, where numbers were concomed, one tan signified t, two tags z, etc. In this way the animal answered the most complicated questions. For instance, it apparently not only solved each problems as 3 times 4 by tapping 12 times, and 6 times 3 by tapping 18 times, but even extracted square roots, distinguished between concords and discords, also between ten different colours, and was able to recognize the photographs of people; altogether, Clever Hans was supposed to be at that time about upon a level with a fifth-form" boy. After investigating the matter, Stumpf and the members of his committee draw up the following conjoins report, according to which only one of two things was possible-either the borse could think and calculate independently, or else he was under telepothic, perhaps occurs, infinence:-

The underlyind not together to decide whether there was my midney to the performance given by Herr  $\nu$ . Often with his bosse  $-i\omega_{\nu}$  whether

<sup>·</sup> Long t form had one in a therman grounding.

the latter was helped to influenced intentionally. As the result of the exhaustow tests employed, they have enough the thir amerimous conclusion that, uptet from the personal character of there of Ones, with which most of them were well arquinoted, the parentalism ratem during the investigation altigother perchalast my such assumption. Notwithstanding the most sareful observation, they were smalle to detect may perform, movements, or other latinations that might unver as signs to the home. To enclose the possible informer of remixedary movements on the part of sportMan, a series of experiments was ranted out salely in the presence of Herr Buch, Councillor of Commission. In some of these experiments, tricks of the kind smally employed by inform wore, in his judgment as an expert, coolinged. Another series of experiments was to arranged that Best to O sun highest could any know the answer to the spention be was putting to the house. From previous personal observations, moreover, the majority of the undersigned knew of parastrum individual races in which other paramy had exerved mager entwers in the memorrary afactor of Hom's. Osten and Herr Schillings. These cause also included some in which the peritioner was either against al the solution or only had in invoccomuntion of what is should be. Finally, some of the andronigand have a personal knowledge of Here a. Outso's marked, which is excertaily different from unlawly "freining" and is capied from the system of restruction employed on printing action. In the unicase of the university of the collection availty of those abservations show that ever maintentions' rightof the bind of present known were excluded. It is their annuarius opinion that we have here to shed with a case that differs in principle from all Cerary and apparently similar cases; that it has nothing to do with "Irraining" in the accepted man of the word, and that it is comognestly Instraing of earnest and searching scientific investigation. Butle, Sept. 18th, 19th, (Here follow the signatures, aroung which in that of Prove Councillor Dr. C. Stungs, University Professor, Director of the Psycho-I speal Institute, Member of the Sealin Analogy of Sciences, I

Any one who has done critical work in the domain of hypnotism, after the manner insisted on by the Nascy school, cannot help considering Stumpl's method of investigation erroneous from the very outset. I had visited Herr v. Osten, the owner of Clever Hars, more than a year before Stumpf wrote his deglerable report; and, on the ground of my experiraces in the domain of hypnotic experiment and suggestion, I had at once thought of these signs, which we make unintentionally and sub-consciously, as primary sources of error. I therefore at once so arranged the conditions of the experiments that no one present, not even myself, could know the correct result. In consequence of this every experiment turned out a fallere, as I explained to the Psychological Society of Berlin at a time when Stimpf had not yet concated from his errorcous publics. A first source of error that had to be considered was that some one present-it might have been Herr v. Osten

of a might have been any one else-maintenanthy gave the horse a sign when to stop tapping. It enmot be considered sufficient, as stated in Stampl's report, that Herr v. Otten did not know the answer; no one should be present who knows it. This is the first condition to be falfilled when making such experiments. Anybody who has been angaged in training hypnosized subjects knows that there issignificant signs conatitute one of the chief sources of error. Some of the leading modern investigators in the domain of hypnotism-Charcot and Heidenhain, for instance-were misled by them at the time they thought they had discovered new physical sefectes in hypnosis. That in 1904, by which time suggestion had been sufficiently insustigated to prevent such an occurrence, a psychologist should not have fallen into an error that had been mode more than twenty years previously. It is necessary to make these remarks openly, no matter bow highly we may prim Stumpt's services to psychology in other respects. As may be seen from the above report, Stimpf made the mistake of believing that he must see the signs if any were given Since this was not the case, he simply excluded the presence either of voluntary signs-i'r, tricks-or of involuntary ones. But a psychologist like Stumpl could not help knowing that it is especially the involuntary signs that may be so delicate that not only the person who makes them is unaware that he in so. doing, but even the spectators also are unable to detect them unless they employ special instruments for the purpose. But the main point is this: signs that are imperceptible to others are nevertheless perceived by a subject trained to do so, no matter whether that subject be a human being to an arimal. Smurpl's mistaken report has led to the propagation of the erroneous notion that a home can be taught to extract squareroots, to perform the most complicated calculations, and be generally educated by a method of instruction like that employed in primary schools. The chief point for the experimenter is not, as Stumpf thought, that he ought to be able to perceive signs, but that he should work under conditions that render it impossible for signs to be made. Sound ought from the very first to have made use of that critical system of research that alone has been employed for the last twenty years by persons making experiments in connection with telepathy, clairs byance, and the action of drugs at a distance-a domain I shall treat of in the last chapter. Since he had failed to

draw from the experiences of the investigators of hypnotism and suggestion those conclusions requisite for the purposes of his investigations, he was bound to come to grief over Cliever Hant!

I have intentionally gone into the case of Clever Hans in detail, because it shows in the clearest manner possible what hypnotism has taught those who are convenient with that subject. It is certain that the investigation of many other experimental sescurches made by some psychologists would bring to light the existence of the same source of error that I have demonstrated in the case of Clever Hans. Only, in the latter case, the error produced such serious consequences; for the horse that was supposed to be able to calculate not only created an immense sensation, but even led a well-known professional psychologist to pen one of the most absurd expert reports ever drawn un.

Happotism has, moreover, helped us to understand many coroneous scientific theories by the light it has thrown on the effects of unto-suggestion on investigators. Soury has publinked a study of a case of scientific auto-suggestion affecting several Dalian physicians. Rainaldi and Giacomo Lombesso. had believed that it was possible to excite certain brain centres and contract the related ratacles, by mechanically irritating the scalp above those centres. Soony shows convincingly how doubtful the doctrine of localization is, and that every author always succeeds in causing contractions in accordance with his costs varies as to motor centres. Similar estors were very prevalent in the early days of hypnotic research. But we find a very similar auto-auggestive process outside the domain of hyproctism, as, for instance, when authors discover exactly what they want. Auto-suggestion is a bindrance to objective contemplation.

Latte on, after I had given him the correct replanation privately and publicly. Strange relaminhed his erropeous tiews when he was a member of a second committee. Unfastaustally, he did not make a public adminisof his come, as he was as drip bound to do; on the convery, he fogged the irone by representing that in his first seport he only desired that would tacy signs had been made. That he was also on the look-out for invalentary signs, and did more emphasically deny that any such were made, is knofurably proved by the asport reproduced above, in which I have indicated the sourcesses relating to this point. In making the introment that he soly draft with the question of tricks-A.c., intentional signs in his first report, Ottop first said that which is substratially unitue.

It was also the influence of modern researches in hypotonis and suggestion that first shed a brighter light on that domain which we call the psychology of crowds. Among the investigators who have worked in this domain I may mention Tarde. Sighefe, Sidis, Lembroso, Vriedmann, Berhousev, Binet, Lorwenfeld, Le Bon, Blenfer, Stratico. The anul of a crowd is not merely a combination of the souls of the individuals composing it; on the contary, it presents certain peculiarities. So, too, the raggestibility of a crowd in of a different nature to that of the individual. Even if opinions differ as to how it happens that a crowd is often influenced by factors that have no effect on the individual, still all agree that the suggestibility of a crowd is something special. Lowenfeld thinks it is elective in that it is not absolutely greater than that of the individual, but, at the most, heightened in a definite direction. Moral contagion, which had already been discussed long before hyprocium, is closely connected with suggestion; and, as Tarde has rightly pointed out, suggestibility is the condition necessary for it to prove affective. Sighele expresses similar views:-"It is quite clear to me that this suggestion is the cause of the movements and actions of crowds, and that a cry raised by some individual in the midst of a crowd, or the word of a speaker, or the act of some desperado, so seizes the whole mans in its suggestive grasp, that it is carried away to acce of destruction like a wild and will less herd." Certainly the carelroord "suggestion" alone does not explain the psychology. of crowds. Numerous other psychological factors play a part, and these have been pointed out in a more or less convincing manner by the authors mentioned above. But whether we are dealing with social or political events, or with artistic tendencies and scientific currents of thought, the suggestibility of the crowd invariably makes itself felt in a particular direction. The same thing occurs where questions of religion or civilization are concerned, even should, in the latter case, the question be merely one of fashion in dress. The part that is also played in religious questions by the suggestibility of crowds is evident from the enormous influence exerted on huge multitudes by the religious hallnemations of any hysterical female who imagines she has seen the Madoena. We find the same thing occurring with those founders of sects, who have known how to infect thousands and thousands of people with their own neculiar hallocinations. Similarly, the suggestibility of crowds

throws light on many phenomena recorded in universal history and the listory of civilization, no matter whether we take the Crusades or three mental epidemics known as St. Viter's dance, dancing manu, and the fagellation masses, which as one time raged so furnously in Germany, the Netherlands, and Italy, and processes analogous to which are experied as also occurring in Abysticia (J. F. C. Hocker); it matters sot, I say, whether we are dealing with the obsessions of the Middle Ages or with epidemics of convulsions, none of three phenomera is comprehensible from the psychological point of view unless we take the suggestibility of crowds into consideration. Plenking redores Ecciteres's statement that history, and more Plenking redores Ecciteres's statement that history, and more porticularly the history of civilization, affects such unking instruces of the mighty effects of suggestion that it should hardly be possible for any historian to pass them by unnoticed

Hypnotism sometimes accomplishes a marvellous feat in providing on with an explanation of mental epidemics, as, for sevance, in those cases is which whole districts have been efected with lycanthropia, or manthropia-ie, their ishaditanta suddenly imagined they were turned into wolves or other animals. Epidemics of sounthrouse occurred frequently in the Middle Ages, and even later. People usually believed they were changed into wolves, and they then attacked and tore others, and displayed the flerceness and instructs of wild bezata. This phenomenon was usually supposed to be the work of the devil. Herodoms and Pliny mention the accurrence of like phenomena in ascient times, and Johann Wire has given us details of later epidomies. Baret reports that in a form of intantry occurring in Japan the subject believes that he has been charged into a fee. It is popularly believed that such a person is postessed by a fox, and the condition is called Kilowar back. This at once recalls those cases in which hypnotized persons are induced by suggestion to believe that they are transformed into animals.

The foregoing considerations should show the extent to which byprotism has enriched the most different domains of psychology. But we shall see from what follows that recognition of the psychological value of hypnosis has helped to advance other branches of research—stanology and the history of civilization, for instance. This is solely due to the fact that the psychological character of hypnosis has become more and more recognized, but this has only taken piece gradually

I may have remind the reader that in 185c, when Heidenhain considered hypnosis a purely physical state, Resembach pointed out the psychological importance of hypnosis and was almost completely ignored! Heidenhain throught that the imitative movements were simple reflexes caused by the subject seeing similar movements made; catalegos and echolalia were more physical reflexes, and psychic influence was entirely specied. Charcot, also, did not escape making similar mistakes. Since then, the importance of psychic influence for inducing the symptoms of typnosis has been recognized to such an extent through the efforts of the Nancy School that the physical symptoms are probably even undersated. This change, which gradually led from the former physical to the present-day psychological conception of hypnosia, could not help having an important effect on psychology in general, since it brought with it hitherto unsuspected proofs of the importance of certain psychical processes, especially suggestion. To-day, importial exemination above that in many places psychology contains traces of hypnotism and of the theory of suggestion, Let the reader take a modern work-such, for example, as the Leitfades der Probabyse of Lipps, who is one of the few independent psychologists of the present day-and he will there find evidences of hypnotic research in sections other than those specially devoted to that donnin. The theory of selfprojection is so intimately connected with suggestion that sushout the latter Lipps would have been quite unable to establish the former. We find something similar in other provinces of modern psychology (a Ribot's works on Memory, Personality, Will, etc.). Psychology has also benefited by the fact that many persons fine acquired a general interest in psychological processes through studying hypnotism. And by providing psychology with so many fresh fields of view, hypnotism has helped to prevent numerical psychology from exercising supreme power to-day in the manner the reprecentatives of this domain of research hoped only twenty years ago.

Of course, we must also avoid exaggerating the importance of hypnotism. Some people thought they were able even to solve the chief problems in cerebral physiology by means of hypnosis, but this turned out to be pronocus. Mistaken interpretations have given rise to these errors. I may here seler to what I said about phreno-hypnotism on page \$6.

Nevertheless, such errors recur occasionally. Just as Berillon did formerly, so Grasset in the present day still believes that hemidypress proves that the two cerebral hemispheres act independently. This is but an instance of the kind of exaggretation met with in every domain of research (of p. 87). Similarly, the theory of the Double Ego has nothing to do with any disturbance in the equilibrium of the two ometral bemispheres, as some assume to be the case. Krause, in his biography of Ribot, lays stress on the fact that the latter has refuted this theoretical deduction. There are individuals who think they possess a triple personality; thus, a print got himself so involved in the mystery of the Trinity that he believed himself to be three distinct persons, and wanted three places hid for him at table. Here we see the above-mentioned physiological interpretation of hypo-consciousness carried at

once of alterdance

Hypnotism has, nevertheless, had its influence on physiology, if only more in a negative way, in that physiological explanations have had to give way to psychological ones. At the some time, it must certainly be admitted that psychical influences are ultimately physiological processes, only we are to day so far off any possible means of explaining this, that it is better to keep our conception of them untrammelled by physiology. In former times the possibility of explaining such states as sleep by means of chemical and physical theories was often exaggerated. Nevertheless, it is impossible to establish a satisfactory theory of sleep without taking psychology, and suggretion in particular, into consideration. This is not to be taken to mean that we look upon sloop itself as a phonomenon of auto-suggestion-a view to which toute people inclinebut that the psychological factors must invariable be considered is conjunction with the physiological; both play a part. The fact that excitement will burnth the severest symptoms of largue instantaneously, discloses the psychological factor; and the fact that eleep becomes a necessity after a long viril probably has a physiological explanation. It is the same with causcular fatigue. Vignolle has recently published a work on fatigue, in which he very properly separates the subactive moment in the production of fatigue from the objective. Even if mineralar fatigue is brought about by chemical and physical changes, it is, nevertheless, mently influenced by psychical processes. The thought of soon getting tired may bring on the feeling of farigue. It is, for example, in comeiquence of psychical processes that people who are theroughly were our by a long tramp lase the feeling of farigue without taking the rest necessary for the elimination of the "fariguestuffs"—a phenomenous often observed, for instance, when the goal is nearly reached. There are many other cases in which it could be shown that the study of hypnotium has dissembled the domain of physiological theories in this connection, in that it has demonstrated the importance of suggestion, and especially that of auto-suggestion.

## CHAPTER XII.

## SOME PURTIER ASPECTS OF STREETS,

It is evident from explanations given in the earlier parts of this book, but more particularly from the last chapter, in which I spoke about the effect of suggestion on masses of people, that hypnotism has contributed very essentially to the cluendation of the history of civilization. This refers most particularly to that domain of the history of civilization that we know as superstinion. I have already discussed in the minth chapter what hypnotism has done towards rendering medical superstition intelligible. In the final chapter I shall return to the connection between hypnotism and some of the phynomena ascribed to occultism. But there are, meconver, manerous other domains of superstition into which hypnotism has given

us a clear insight.

I am here going to call attention to one of the most remarkable chapters in the history of civilization, I mean the superstitious belief in witches that obtained during the Middle Ages and the first centuries of modern times. Not only has hypnotism enabled us to understand the universal diffavior of the belief in witches by demonstrating the suggestibility of large masses of people, but it is also due to modern researches in hypnotism and hysteria that light has been thrown on the mental state of the witches themselves. We are now justified in tracing to auto-suggestion in autohypnotic and similar states the witches' belief in their intercourse with the devil. Marario thinks that the fixed ideas and sense-debusions of the witches were the result of emoseous sense-perceptions during aleep, and that the witches were so family convinced of the enality of their delusions that they faced torture and even death without firething (Same de-Sanctis). Lovatelli pointa out in her Rossav Eccays, one of which is devoted to the dreams and bypostism of antiquity, that the belief in rand/ and syouhr-male and female demons

whose imaginary embraces were due to disturbing diseases already conted among the old Chaldrams and Rabylonians; the sweaps with devils reported in the Middle Ages were nothing but a revival of this ancient belief. Paul Blom also touches on the antiquity of such phenomena is his dissertation on psychical anisothesia. Greeks, Romans, and also Buddhists, would have exhibited these phenomena just as witches, may

noticed persons, and hyperotics have done.

The lethargic, cataleptic, and somnambalic states, which hypnotism likewise explains, and whose victims have often enough acquired a reputation for special sanctity, provide a kind of counterpart to the witches damsed by the Catholic Church. One has only to peruse the literature of the bygone. days to tee what an impression a girl made who lay in a deep sleep for weeks and months, and how my me who fell in convulsions before a sucred picture was looked upon as a hining favoured of God. Or let us take those cases of autosometendulism which have so frequently obtained for their applices the fame of being divinely inspired. Felix Recquain has devoted a chapter of a recent work. Notes of Fragments de (Histoire, to the question of hypnotism in the Middle Ages) he thinks that hypnotic states would account for phenomena that have hitherto been disputed and ascribed to froud, as, for example, the case of Marie d'Oignies, who lived in Belgium in the thirteenth century, and acquired great celebrity by falling into states of ocutasy, in which the was so animated with a burning desire to give a representation of the wounds of the Saviour on her own body that she backed herself with a knife. A reputation for special sanctity was even more common in the case of those auto-ionnambalists who delivered addresses which conveyed to pious minds the impression of divine, or at least supernatural impiration. Believers in religion and quiritualists are alike in this respect. We know with what camestness the poet Brentsno listened to and recorded the myings of Katanina Emmerich, the sugmathst; and the speeches of mediums are believed by speritralists to emanate from spirits, whereas they are in reality nothing but the thapsodies of persons in a state of trance-fe, in hypotonic as Thoma very properly assumes from his analysis of a special case. The circumstance that these people often speak quite flaculy, in spice of their lack of education, conveys, to uncritical audiences. the impression of special inspiration, although we have not

difficulty in explaining that all mediumblic cloquesce is due to the fact that a hypnotic subject is often much more loguscous than a man who is awake. Some cases also present an increased power of recollection, like that occasionally described as occurring in approxis, and hypermuthesia of the organs of semic. Bastian has pointed out that a similar heightening of the faculties is also observed in the auto-somcambulic states of uncivilized peoples. Nowadays, hypnotism certainly enables us to understand these observations, but we must add that most of the reports dealing with the brightened faculties of unto-spennambulic individuals are so desoid of criticism that they afford no basis for scientific discussion An example of this: - A blacksmith's apprentice, Kohn, aroused considerable attention during the middle of last century at a place near Dantzig, by delivering religious addresses in which he repeated passages from the Bible with literal accuracy when in the somnambulic state. Beesel familihed a report of this case to a medical Journal to cliqu, and remarked how wonderful it was that a man like Kohn, who was anacquainted with the Bible, should deliver such addresses, but he address no proof that the commandulist had not previously read the Bible. It is just the same with many other cases in which special capabilities have been attributed to somnambulies. Lehmann's contention that the existence of higher intellectual power in communication has never been attested by persons whose doctimination and judgment rould be relied on, is at least true in the majority of cases. The literature of the question shows that the miraculous mental performances of somnambulists were hardly ever submitted to real scientific control. Such control is often upine out of the question-us, for instance, when a medium describes what it looks like on the moon or the planet Mars. That credslous spiritualists should believe such statements is not to be wondered at. But it is not to he desied that people occanionally exhibit somewhat greater capability in hypnosis than when they are awake. But even if this is the case, it can be explained by the special characteritties of hypeonia which have just been mentioned, more particularly the greater freedom of movement, the increased power of surmory, and hypermithesia of the oceam of sense. We can likewise trace to happennesia those cases in which a medium makes a speech which he would be incapable to delivering if he were awakes he remembers things that are completely forgotten in the waking state. I may here refer the reader to what I said about this on page \$20 et soy. There is no credible case on second in which a medium has been proved to have delivered a speech which he had not leasned beferchand.

There are, in this connection, many other phenomena that can be explained by hypnean. Of these I may mention the assertion that fakirs and eestaties do not bleed when pricked with a needle. Lloyd Turkey says he has observed the same thing in the case of deeply-hypsociaed subjects (of. p. 107).

In the foregoing paragraphs I have purposely discussed some phenomena which belong to the domain of spiritualism, but which hypnosis suplains in the simplest morner. It used to he assumed that mediums simulated a state of trance on the . ground that no such state really existed, but hypnorism has shown this assumption to be erroseous, though it must certainly be admitted that a state of trance is very often simulated. The foregoing remarks ought also to show that hypnotism has contributed in many other ways to the refutation of spiritualism. And it ought not to be considered a mere matter of chance that spinoralists, and more particularly mediums and their accomplices, find critical investigators the most unpleasant experimenters they have to deal with-people who should be bept away from spiritualistic shares at any cost. Mediums know quite well that a man who understands hypnotism and is also a critical observer-there are people who understand hipperotions and yet suffer from the same auto-suggestions as spiritualishs-in best able to detect those sources of error which have to be comidered.

I will now make trief mention of another phenomenon which has been wrongly interported and ascribed to fraud, because it did not appear easily explainable—I refer to the blooding of the akin, which has played a part in the mysteries of the Catholic Church. It is reported of sugmatics that they eshibit bleeding of the skin in places that concapond to the wounds of Chirst. It was first observed in Francis of Associ-Bournet, who gives a detailed account of the case, asserts that the assumption that the phenomenon was the result of heirhoried imaginative power was first put forward by Jacobus de Voesgine in the thirtoenth century. As time went on, the manber of atigmatics increased very considerably. According to Import-Courbove, there had been one hundred and forty-five

stiguatics up to 1573, in which year, he adds, eight were still alive. The best-known case of modern times is that of Louise Latean, of Bon d'Haine, near Morn, who was much talked of in 1868. The anatomical process in her case was rather a complicated one (Virchow, Lefebree). Blisters first appeared, and after they burst there was bleeding from the overlow (true skin) without any visible injury. In the descriptions given of other stigmatics, we also find very complicated processes described as atigmatination. In the case of the stigmatic of Gandringen, described by Welscher in 1844, the bleeding was preceded by the formation of blitters. Delbouf and others believe that the phenomena of ariginatization were due to auto-suggestion. Louise Lateau directed her attention con-· tinually to those parts of her body which the knew corresponded to the wounds of Christ, and the anatomical lesions resulted from this strain of attention, just as they did from external suggestion in other cases. Virebow thought that fraud or miracle were the only alternatives; but it must be added that Lomie Lateiu was supposed to have refused all nourishment. Wariement decided, after personal investigation, that fraud was impossible. It must be admitted that no exact investigation, such as seience demands, was undertaken in the case of Lasear, and my own commission of other such cases has never revealed one which had been submitted to the unbiassed iswestigation of true science. At the same time, it must be admitted that the mechanical production of such hemorrhages is within the limits of possibility. On the other hand, if we take the results of modern bypnotic research into consideration, it cannot be denied that the bleeding might have been the result of auto-suppostion, as pointed out above, but even then we should have to remember that the certasy of the stigmatic bears a great likewass to bypnosis-hoth states are possibly identical (Mantegarra). Nevertheless, the auto-suggestive interpostation must be considered justified. And Nusshaum thinks it does not run counter to the teachings of the Catholic Church if we comides that the pious unidens who became organities were to deeply embased with the impression that they felt the pains and exhibited the five wounds of the Saviour, that real drops of blood coxed through their skin.

The Catholic clorgy, many of whom, like Sancha Hervas, condemn hypnomism altogether, object to the identification of sugmatination with bleeding from the skin. More asserts that

the stigmatics, so far from being in an abnormal state, were quite awake. But apart from the fact that this would not traverse the assumption that auto-supportion produced the blinding, Mene's supposition is undaubtedly wrong. It is perfectly clear from the descriptions given by various stigmatics that their state was abnormal. As far as Louise Lateau is concerned, also was in a state closely related to hypnosis; that is, if we take it for granted these was no fraud in the case. There was even some explore, for Latens, like a hypnotic, spoke to certain persons only. Other objections to the explanation afforded by suggestion are also unwarranted. Combouit considers stigmatization a supernatural (#ellernatives') process. He is opposed to Surbled, who, like himself, did not admit the psychical origin of atigmetication, but, nevertheless, thought that although a scientific explanation is still wanting, the future may well be expected to supply one. Such a standpoint, which is in itself thoroughly logical, Gomhan't considers mistaken; he thinks that if stigmatination cannot be explained in the present day, for that very reason the view that it is of supernatural origin is the only one that is warranted. In total opposition to this view, we are to-day much more junified in asserting that bypnosis and suggestion have provided us with a possible explanation of the phenomenon.

The same remerks apply to the reports of other miracles, even if believers very frequently controvert the explanation provided by suggestion or other similar psychical influences. belong, for example, floes this with regard to the psycho-therapeutic view of the cures which have occurred at Loundes; but what he advances as disproof will hardly convince a scientific investigator-wir., a child that was supposed to be dying was plurged into the ice-cold spring in February and got well. For Lelong this can only be explained by a miracle. Now, it a exactly the study of hypnotism and suggestion that profers numerous inducements for accepting a scientifically psychological view of the action of Lourdes on patients. One of these inducements-siz, the psycho-therapeutic factor observable in the action of Louides, I have already discussed on page 355. As the result of a thorough investigation of original sources of information, Roeby has recently published of Study of Loundo, in which he describes how that place came to acquire its senown. He traces everything to the fact that in the case of Bernadette Souhingus hysteria was overlooked at

the time. It is mustly related of this girl, that in 1848, when she was fourteen years old, she saw the Vergin Many in the grotte. Rouby proves from authoritative sources that one day when the child was gathering stocks she stayed tomowhat beland her companion, so as to take off her shoe, and hearing a rusting noise, looked up. When asked by her sister what was the matter, the child at first only said she had seen something white. Later on this developed into a marvelloudy beautiful lady of medium statute, clothed in a white does with a blue girdle, and to this story fresh details were gradually added from time to time. A simple noise had caused a sensedelesion in an obviously worked shild! It is not exactly improbable that the gal did at first actually see something white, and that afterwards all the other details were worked into the story by means of suggestive questions. It is extremely instructive to observe how a lammers incident has made Louides what it is to-day, and naturally the suggested there peutic action of a locality so glorified was bound to keep the renown of the place ever on the increase amongst emotional believers. It is probable that the Oracles, Temples of Sleep, and other holy places of antiquity were created in a very strollar marener.

In hypnotism, we may, perhaps, yet discover the key to many other miracles. Among such is the charging of a serpest into a rod, mentioned in the Bible. Verwore reports in his work on the so-called hypnosis of animals, that when experimenting with an Egyptian spectacle-enake, he observed that the seake by motionless if adroitly seized at the back of the head and the nape of the neck pressed with the forgers. He connects this state of the make with the changing of a serpent into a red. Moreover, he himself, in contradistinction to other investigators, does not reckon these states of animals as true hypnores. If these and other miracles mentioned in the Bible admit of an easy explanation through researches based on hyperotians, the attacks which some people have on that account made on investigators of hymotism are surely quite unjustified. Rolincri and Ziegler, for example, are particularly opposed to any attempt being made to explain the miracles of the Bilde by hypnosis. They consider it disparaging to Holy Writ. Even if, as is only natural, nebody's feelings should be wounded by the scientific explanation of miracles, we ought not to prevent investigators today explaining in a scientific way things which at one time passed for miracles. The picty of people who after earness deliberation can yet see in this any danger to religion, must be only very superficial. For certainly some people, and perhaps not the most irreligious, consider in the most miraculous work of the Deity that all things follow immutable laws. From the standpoint of ecligion, the scientific explanation of miracles—(e., the explanation according to the law of causaling, will appear much more cabline than the dognatic acceptance of magnificant wonders. At all events, the assumption that hypothem is undermining religion by

explaining miracles, is quite untenable-

In the foregoing paragraphs we have become acquainted with the connection of hypnotism with the history of civilization, and there is just such a connection with ethnology. Moral contagnor, and the suggestibility upon which its efficacy depends, plays a great part in the morals, existoms, and actions of uncivilized races. Vierkands denotes it absolutely as an important advance in ethnology, that more attention is paid to the action of emotion, of suggestion, and of the prevailing liables of thought than was done formurly; moreover, he openly correspond the opinion, suppressed by so many people, that our own convictions also, and the actions that proceed from them, are frequently on no higher level than those of yore. But these is another special part that hypnotism plays with respect to ethinlogy, and to this Vietkandt has likewise called amention, He attribut to suggestion an assembl influence in producing the belief in sorcery, that certainly constitutes so essential a portion of the domain of ethnological research. "Human beings, especially when in a state of great excitement or of mental disturbance caused by the perrading idea, often believe themselves usally changed into animals. People who have an wittingly entru taboord fruit have sometimes died when their offence was subsequently made known to them. It has frequently been proved that the knowledge of being bewitched can make people really ill. On the other hand, we see even in the present day how belief in the powers of soncery can free from discose." Bartela, also, in his Medicia der Alatarniller gives many details concerning the suggestion power of magic practices. These and many other considerations prove, without further trouble, how hypostism has existed ethnology, and, more particularly, ethnological psychology.

Long ago, Stell had supposed that ethnological psychology

would be furthered in a twofold respect by hypnotism and the study of suggestion; (1) suggested some-delusions in the waking state would be explained, (a) wholesale auggestion would be residued from smally comprehenable. And Regnier had expossed similar views in his Hypnotisms of Communication ancience. He thought that if hypnetians were studied, war comprehension of ancient magic, in particular, would be essentially facilitated. In hypersols those phenomena are artificially produced which played so great a part in anciest magic in cases of sommanhulium with its accompanying sensedefinions. Here also would belong the marvellous things we hear reported about fakirs and yogis, about which I have already spoken on page pog at my. It is, especially, certain states of sleep presented by these people that we may count as phenomena of anto-hypnonia. How far the other marsels we occasionally hear reported of these people-for austance, their being buried alive, power to make plants grow artificially, ste. -depend on truth I will not here decide. I will only mention that, according to communications I have received quite recently, probably all the miracles of the latirs and yogis would be at little able to withstand an investigation conducted on modern lines as are the mirackes of our spiritist mediums. The mysterioraness of India and its remoteness are obviously extracedinarily favourable conditions for the cultivation of legends.

One such false, who rejeyed a certain assent of relativity, appeared in clear acquaintance to prove a enty good man of between. If here treeried the following report about him. The miratle performed by this false man said to consist in his hying perpetually on a bed made of mothing but theres. It appeared no store inspection that these were no thomas in the bedor, more correctly, that the those were very blue. Also, the man bissued never lay on the bedtrees lay on the bed except when gold for so design. As a mile, he man limited the objection that it was not quite his time to foring. As a mile, he made the objection that it was not quite his time to foring down. But even when poid he invariably remained but a few minutes on the bed. The squarey of the though that that the position his chie is therefore very case who had seen the man hying on the bed surept when he had not appeared by topicated in the so. The same genileman, who known had thoroughly, vold me he considered it quite out of the question that liking would over really salmin to being watched under the stricted scientific receivisions; such a thing would be quite contents to the Indian autional contents in the lang would be quite contents to the Indian autional contents in the good and contents.

The foregoing explanations alone ought to show what a great advantage we may expect to gain in the fight against superstition

by studying hypnotism and auggration. When Virchow was as alraid of the blossoming forth of hypeotism as he was of that of animal magnetism and homocoputhy, it was obviously because he was too much accustomed to pathological anatomy to be always able to find the right standard by which to test psychological questions. In the final chapter still further material will be produced to show that it is exactly the theory of suggestion that has exposed the most important sources of error in investigating occult phenomena. For this reason, Henning in his book Warder and Witnesstoff, like Lebmann in his Aberglande and Znalerel, makes a thoroughly appreciative use of hypnotism and suggestion in explaining the most diverse forms of superstition.

The use of hypnotism in education has also been frequently discussed. Cases of manufaction have been treated by bypnotic suggestion. Berillon employed suggestion to case the habis of biting the nails (onychography), which is said to be particularly prevalent among degenerates, and, according to l. Voisie, is often associated with masturbation. Here also would belong cases in which exaggerated hashfulness and timiday, particularly the dread of being looked at, about which Hartenberg, Reclusiew, and Soukhanoff have written, were treated by hypnotic suggestion. Most of the cases set down as coming within the province of the educational use of hypnotic suggestion might with equal justice be reckoned medical cases. The distinctions here made are rather arbitrary. When a child is attacked with involuntary movements through instating thoreatic movements, it is difficult to say where the evil habit ends and the disease begins. It is indifferent whether we say that Importism is used in such cases to care disease or in the interests of education; the point is to know what is meant. There is nothing opposed to this in the view held by Forel, Dekhterell, and probably all other serious investigators, that the use of hypnosis for educational purposes should be reursed for medical men experienced in this stomain, and that laymen should not be allowed to hypnotice for this purpose, as was peoposed by Decroic. When an anonymous German author thought he made the question eldiculous, or related the adherents of the educational use of hypnotic suggestion by banishing hypnotism from the schools, he was simply comlisting a proposal that had never been made. Bérillos,

Berment, Netter, Leclerc, Ludame, Brunnberg, A. Voisin, Collineau, Sinnei, Natamoin, Pamari, and Figrand, who devoted his thesis, Le Saggestion on Philogogie, Paris, 1897, to the question, merely mean by the educational use of hypnoris that certain fruits in children, which many people consider actually pathological, should be cared by medical hypnoric suggestion. According to Berillon the chief value of this is that it enables us to combat automatisms by the influence of suggestion on the inhibitory centre. Whether hypnotic suggestion produces great results in sech cases is another question. Binet was probably right in severely unitering the enthusiantic report in which Luckens recounted his impressions of a visit to Berillon. Nevertheless, we shall be able to obtain good results from hypnotic taggestion in usure cases, if we only apply it as indicated above, either for pathological phenomena or for such as lie in the horderland between coloration and thempeusis.

Only, we must avoid all sangeration. Some people have even imagined that the loyannin stude could be most to leave a language quickly, because the accompanying hyperments would prove of great unionize. And is American distinct neveral Quarkenium assess that he has coved center stelects of character by seems of happosic suggestion; untrobled not, klaptomaria, almbodic treatmasses and unsolvens impulses, wasted respect for superiors and sevented little impulse for play, all these can be corrected by suggestion. Low impulses and dirty treatments can be transferenced into units sharacteristics. Stakings in spitas can be changed into course grammarical English, and a tembers in spitas can be changed into antile sharacteristics, from all that Conclusions has achieved? In 1923, the Dutch Society for the Francetion of Children topological moveral languagement. Windles, Schaptes, and Remengians—for that explains on the question. Renterghers explicit that had seen good result obtained in cases of various had habits (oxychography, manustration), but Winkles respond a fear that if it were suggested in a child, "Thus that not strail," only the ward steal would be assessed. Schayten decimed to autuor the question on the gount of improvement, but stated be wearers soughted as to the obsentional and of hyperois.

Even if I believe that the educational use of hyperosis only concerns us in the manner mentioned above—i.e., that its province is a very limited one—I nevertheless believe, on the other hand, that the frequent objection (Blum, Seeligmiller) that hypnosis would turn children into machines instead of human beings is errorseous. Hypnosic suggestion and suggestion and of hypnosis, and also education in general, have all

the same almost determine the subject's will in a certain direction. Just as we endeavour in ordinary education to lead the subject to do right of his own contrious will, and not on compulsion, so in it with hyprotic suggestion. In the latter we endeavour to let the external suggestion become an actoragestion. Even if people often oppose the teaching of suggestion, experience and suprejudiced investigation show that numerous suggestive factors co-operate in every system of education, even the best. In a work devoted to the physiology and psychology of attention, Nayrac has discussed, among other things, the cultivation of the attention where it is morbidly impaired. Even if he is very reserved in his remarks on hyprotic suggestion, he revertheless excibes a prominent part to waking suggestion in such cases. I, also, believe that bardly onything will ever be accomplished without the latter.

The relations of hypnotism to Art have often been discussed, and the hope has been expressed that it would lend its help as an incentive to art. Braid discussed the influence of praise on hypnotics in his Newsystoways music enabled the hypnotic to mose most gracefully and dance to perfection. Hypnotics were also enabled to maintain a definite posture without any exertion, and Braid even thought that the Greeks mucd the perfection of their artistic skill to scalpause to hypnotism. The achievements of the Bacchardes, also, were due to the hypnotic state in which they must be assumed to have been, because, as Oxid said, new seasof ravieres Moreas. Ordinary people of no education moved in bypassis with the grace of the most accomplished ballet-dancer. Beald went so far as to construct a connecting-link between the art of distring in his shy and the dance executed by hypnotized persons to the arcient Greek mysteries.

Braid's observations should arouse interest, especially considering the appearance of sleep-dancers in second years. As far as these sleep-dancers are concerned, Madana Magdalaine G, has caused the most sensation. Endeanous were made to utilize less for the study of certain problems, sometimes of a scientific and sometimes of an artistic nature, and stress was laid on the following details as being particularly noteworthy. In the first place, the gracefulness and expressiveness of her dancing, and particularly of her mimorry, were said to be so perfect that the like had hardly over been seen before:

occordly, it was taid that the talent for this only cause to her in hypnosia, and that it was, in fact, aroused sometimes by the influence of suitable menic, sometimes by the influence of pritable words, which, for example, expressed the emotion to be depicted; thirdly, it was expressly stated that the lady laid no knowledge of music when in the waking state; and fourtile, that the very perfection of her movements first appeared quite spontaneously in hypnode, and had not been taught her in any

Wat.

When calmly considered, the only thing that remains of all these assertions is that most people acknowledged that the lady knew how to express emotions in the most exquisite way by minutic and other movements. With regard to the investigations of experts, we may also take it as proved that the lady is hypnonitable, and at least sometimes showed has attistic skill when in the hypnotic state. In this respect, at all events, the investigations of experts are more trustworthy than the 4 priors decisions of laymen, whether the latter sport a doctor's bood or not. Of course it does not follow from these investigations that Madame Magdeleine G. was always in hyperode when the appeared in public. But apart from these two facts (hypnotimbility and an exquisite skill in the porternal of emotions). everything else that has been reported about her achievements as to be considered improved. It has not been proved that she only possesses this artistic skill when in the hypnotic state, for Schrenck Notzing's apodictical assertions on this point cannot take the place of poord. One is so easily led astray." I myself nemeraber a mitgers who, when hypocoisted, showed marvellors skill in representation in response to the most diverse suggestions-changes of character, for instance. For a long time I thought that it was only possible for the subject to represent the most diverse characters and emotions when in hypnosis; but one day it turned out that the subject possessed an extraordinary takent for this sort of thing in the waking state at well, and that all that was added in hypnosis was the possibility of situations being exiled up by suggestion. Everything else was just as possible in the waking state. Now, when we come to consider that to make a semation of the whole affair by laying stress on the hypnosin was always to the interrut of Madeleine G. and her impresario, the magnetists Magnin, it follows that we must greatly distrust all emubstarnated statements to the effect that the woman did not postern

the same talents when in the waking state. It has just as little been proved, and, moreover, was never asserted by Schrenck-Notzing, that the lady is not runical, or is less sensitive to music in the waking state. There is, also, no proof whatever that she had not received a long training in the art of expreming various emotions. Certainly Schrenck-Notzing has accepted these assertious of the impostante, Magnin, as accurate, Schoenck-Notzing says:- "No instruction had over been given in dramatic art or in tullet-caucing. . . . Magnin tried the effect of munic on the sleeping somnambulist; and at the very first of these experiments she passed into a state of active sommerbelies, and accompanied the sensations aroused in her by the music with the most esquisite plastic poses and a dramatic skill in expressing emotion that far surpassed anything that the highest order of acting is capable of achieving. Her shenomenal diamatic skill is consequently a ready-made gift of nature. In all the can do she has recoved but little assistance from practising and developing her latent talents." So many sentences, to many assertions, which is all the more striking in the case of Schrenck Notring, since he never mems able to be suspicious enough when dualing with the experiments of other investigators. I call to mind, for imatorce, his thoroughly initifiable criticism of the statements made about the production of organic changes by suggestion. Schrenck-Notzing will doubtless understand that we do not yet consider his confidence in the trustworthiness of his subject a proof of that trustworthings.

As far as his statement that she had received no instruction whatever is specially concerned, it has nevertheless certainly been proved that she comes of a dancing-master's family. I am inclined to doubt whether that exactly proves that she had received no instruction. Moreover, Lowenfeld also takes it for granted that at least Madame Magdeleine G.'s capabilities were specially cultivated when she was in the hypothe state.

Thus much for the actual material, which has not brought us any essential scientific benefit. For it was known long before Madame Magdakino G.'s much puffed performances took place, that music, either with or without hypnous, could cause succeptible persons to display emotion. I have refer the reader to what I said on page 143 of seq., to which I may add a recent observation made by Pamart. The latter saw a lady, who was lintening to a plannit playing a piece by Beethoven, approach

the performer with staring eyes and sink down weeping beside him, in a state of complete entalepsy. Numerous other cases of sleep dancing have also not proved of any greater importance to ocience. At the most, we need only feel interested in the infection which one such case conspread. Madame Magdeleins G. was followed by a whole series of sleep-dancers. We also heard of a lady who could draw in her sleep, and another who could ride in her sleep. The latter, who had never been on a home before, suddenly developed into an accomplished home woman in the sometimbalic state. In convenition with me, an expert to whom the budy had referred certainly denied in any that she possessed my such skill.

As far, then, as the relation of hypnosis to art is concerned, we must pay so attention to the case of Madanie Magdeleins G., which caused such an unreasonable sensition, but we must discuss the question generally, for the very reason that it has never been proved that Madama Magdeleins G, had to be in

hyperoris for her to represent emotions and feelings.

In itself, there is no objection to the opinion that hyproxin may be used for artistic purposes. Not only are we able to succeed in the arbitrary suggestion of emotions and feelingsi.e., to produce such experimentally—in the case of a suggestible person in hyperoxis, but we have also to comider that the inhibition which is often exceed by the surroundings is less likely to occur is the case of a hypnone than in that of a waking person. We can therefore understand that under circumstances a hypnotic may be able to peac as a good model for the representation of feelings and emotions. That hyperesis early can be used for arratic representation goes without saying, and has already been mentioned by me (p. 32). At all events, the possibility of utilizing hypnosis cannot be denied. The representation of the emotions given us by Charcot and Richer, Luya, Rochas and others should certainly fasour this posselnisty.

As far as the further relations of hypnosis to not are concerned, Lorsenfeld mentions a use of Dufay's, who sent are actives to sleep and suggested that the should undertake, for a sick colleague, a part abe had never studied but only seem played. The actives played the pare excellently, and it was necessary for Dufay to wake her after the performance was over. However, one would hardly be so ready to venture on such an experiment. But, as Lorsenfeld also musts, there is

another direction in which the use of hypocosis for artistic purposes might well be considered, and this brings us into touch with a domain that is closely connected with medicate and education. Actresses and other artists have not infrequently expressed a wish to be relieved of their fear of "going on" by means of hyprotic apposition. It is undoubtedly possible to do this in a whole series of entes, and we certainly have a right to accede to such a request even when the nervousness has not quite reached a pathological stage. Like many others, I am convinced that a very great service might be rendered some persons in this way.

Thus much about the relation of hypnosis to art. I may add that I have not here discussed the use of hypnosis in belletristics, because I have already mentioned the chief points

of that question in the first chapter (p. 32 of my.)

## CHAPTER XIII.

## OCCUPATION.

In this chapter I shall treat of the so-called phenomena of occultism, which, notwithstanding the absence of all internal affinity, are constantly mentioned in connection with hypnothm, the connection being for the most part merely determined by their historic development. Though I for my'own part consider the deductions thereo from such observations to be inexact. I am yet of comion that they demand unprejudiced investigation, all the more because of the greater service which by a scientific refutation we may render truth, than by simply dismissing the question on a trior grounds. I am strengthened in my conviction of the expediency of investigating these phesomena by my further belief that this course alone will afford us the means of successfully opposing the uncritical occultism of the present day. It cannot be denied that the occultic movement ins now become very widespread throughout the circled world; no less in America than in Europe, and in Protestant as seach as in Catholic commiss, to the same extent among nations appropried liberal, such as England and the United States, as among those which, like Russia, still seem to belong to the Middle Ages, everywhere occultism has been steadily gaining ground within recent years. Further, this interest pervades the most widely differing strata of society. Among the aristocracy of birth, in the first place, we find it largely represented. Occubic, and more especially spirituatic tendenties estend to the highest circles, and now-as under King Frederick-William II. and the Emperor Napoloon III., for instancefind at many of the Courts of Europe powerful support. Nest, we must mention the plutocrary, in this as in sa much else a closs imitator of the aristocrat nobility. Let it not be thought, however, that leasings to occultism are confined to these upon ranks of society. On the commuy, a host of small officials,

schoolmasters, and tradespeople are to be met in its samp, whose forces are, in a word, recruited among all arcial classes.

It is a noteworthy circumstance that some really eminent scholars may be found among them. Just for this reason I advocate careful scrutiny of the problems and exposure of all sources of orror. The names of these individual men of feature ing being constantly invoked by other occultists as a guarantee of their festimony, this circumstance, together with the natural bent of mankind to accept authority in matters of belief, constitutes a very seal danger. The fact is perpetually overlooked that a man may be an authority in his own sphere without having the elightest claim to be considered an expert in any other, and that the foremest scientists, should they mouscutanly betake themselves outside their special department, are often otterly at a loss how to avail themselves of methods of research so different to those employed in their own daily work. Mere superficial observation does not take this discrete of method at all into account. Even the scientists in question are apt to be themselves completely unsware of having entered a foreign domain. In realty, however, their ordinary methods may differ fundamentally from those which they are suddenly called upon to apply. A few examples will serve. Lombroso, in dealing with Emapia Palladino, fancted binnelf specially gualified for the detection of imposture, on account of the experiences concerning simulation which his work as a psychoarnst led him daily to collect. As if the trickery of spentiatic medium had anything in common with the simulation of persons appeared to be mentally affected. With regard to such tricks, conjurers are the proper experts, not alientals. The same may be alleged against Wallace, who has afferred the trustworthiness of spiratistic phenomena. Specially con-vincing appeared to but the experiment of a certain Mrs. Marshall, in which a blank sheet of paper placed under a table showed, when withdrawn, inscribed open it the name of a person with whom the medium was supposed to be wholly unsequinted. It was the impossibility of producing the writing mechanically which at the time chiefly impressed Wallion And yot even here it may be objected that Wallace's statement that a blank sheet of paper was hid under the table by no weeks suffices to prove that it had not already been written on. The austlemen who accupy themselves with these phenomera should only take the trouble to acquire a little of

the prestructurers art, and they would soon find out into

what an entirely anknown world alsoy have stepped.

Stamps, too, whose report concerning the horse Clever Hans I discussed on page 455, must be revised in this enterpoy. I reproduced (page 455) this document. It admitted of a two-fold interpretation: either, in the first place, that the horse really did solve most complicated antimetical problems, that is knew the clock, recognized different people from their photographs; in a word, gave proof of real intelligence, of a mental profesioncy which Stampf described as having hees acquired by something akin to the system of instruction at his elementary school. One loop-hole was left-the sustment admitting the possibility of occur agency, of a telepathic influence being exerted upon the home. Stumpf thought libraself, as a psychologist, necessarily an expert in the investigation, whilst in coality the method of impury required facts: totally differed from any that he was necessorized to follow. that he but considered the uniter objectively from the first had he but once corefully read through any single piece of the avidence drawn up, not from the point of view of the scientist, but with a man's sound common serme, he must at once have recognized his error. Must be not have thought it strange that the horse, then only eight years old, should already know manthan a child of the arme ago; that is appeared, in fact, to have mastered the whole German language, which burnar beings spend long years in containing? A current joke of the time was that the horse stood on the level of a good pupil in the 60th class of a German grammar-school-one about to be removed to the fourill. In mality, towards, we should have to place the unimal on a still higher stage, -unless we accept the theory of a very grave delization. A protocol placed at my disposal contains, for instance, the following questions;-"Look, Hans, there is the general year know to well; what are the colours of the order be is warring? tell us the first!" "Ham, a rifeer free-mark party is being shown your how many marks are there in the next moder airest com?" Many such questions were pitt to the hone and correctly answered If we take further into consideration that it recognised teriodics, distinguished one chost from wrother, could extract more or square numbers, in a word, solve quite complicated arithmetical problems - resumbering all this, it seems inpossible that Streeps should not see the necessity of proceeding

with the very greatest carrion before patting his name to such a report. The mere fact of overlooking so important a point as the house's complete knowledge of the German language is a characteristic example of the case with which scientists may be decreved, directly they enter a field in which the method of

inquity is quite new to them:

That which happened here to Stompf took place also in the case of those investigators who entered on observations with the spiritatic medium Stade, concerning, for example, the deflection of the magnetic needle. I shall have to return to this, and will merely remark here that these men were also obliged, even though they may themselves not have been aware of it, to deal with this matter according to methods of intuity which were perfectly new to them. These investigators were unon assumedly must admirable workers both in the study and the laboratory, but there they had morely to contend with error, never with frand. And now, where it was at all events within the bounds of possibility that they were about to witness sort of conjuming trick, their science was utterly at fault; they formed a circle, bolding one another's hands, doing everything, in fact, that the trickery of the medium demanded of them. The observer, far from making his own conditions, allowed them to be imposed on him, and did not even perceive that he was doing nothing but just what seemed good to the medium. The same thing occurred with Crooker, whose bellef it was that spiritute medicine, and Home in particular, were able by means of a payetic force at their command to make material objects lighter or heavier, and consequently to not them in motion. Never once did Crooken remark that he laid entered a sphere of abservation in which he was not at least at home. It is Laborator's greatest men't to have pointed out that those experiments of Crookes, so often beought. forward in support of spiritism, really prove nothing at all, From the accounts of the proceedings published by Cropkes himself, it is perfectly evident that not only did be insut on no objective conditions at all, but that he simply allowed himself to be completely directed by Home. And there are such fundamental differences between the two accounts, that Lebmann was able from the accord publication to furnish proces of the impossibility that the mover abould really have taken its course in the manner depicted in the first. He shows that Crookes had not the vagnest conception of the extreme

importance of those paraculars which he passed over in his first seport. The two descriptions, according to Lehmans, differ so entirely, that had Crookes himself realized those discrepancies he could not have given the one "without laying

himself open to a charge of conscious fraud."

It has already been hinted in the above that it is not from men of science, who believe themselves a final court of appeal in these investigations, that a decision is as a rule to be sought, but rather, in very many cases, from the conjuner. I am, boreever, perfectly well aware that conjurers have been found to maintain the genuine character of the phenomena. Zollney, for instance, invoked the testimony of Bellachini. But in according this unquestioning recognition to Bellachini's evidence, Zoliner himself entered a territory with which he was totally unacquainted. In the first place, not every conjures is necessarily a competern Judge of his own art. And just with segard to Bellachini, it is well known that he was often quite taken aback by the performance of some new trick. In the profession be was never looked upon as a really match winted conjurer. We must, therefore, not consider all conjunes properfy qualified to examine occultistic phenomena. The question further depends not movely on the professional competency of the conjurer, but also on his personal character, and more particularly on his regard for the interests of science. Let it not be forgotten that the conjects regards as a colleague the medium engaged in the service of occultism, and, as we know, olering derican non fatimat. As an instance of the lengths to which diffel se steps may be carried in these matters, let me cite the following -Alout fifteen years ago a so-called usage netic lady, Mrs. Abbott, made her appearance in Berlin. The strongest men tried in yazz to life her from the ground; their united efforts were equally unavailing to lift the chair on which she was sitting. In one special attitude it was found impossible to make her full back an inch, together with more to the same effect. I pointed out at the time t'ut the whole thing turned on a very clever application of the hws of mechanics relating to the lever. To remove all remning ducht the fimous wentler Abs was called to Berlin, and he declared in public that he found it impossible to saise the noman from the ground. I do not think I am guilty of the slightest indiscretion if I now state that the chief actor in the some has long since schnowledged the accuracy of my explanation, and admitted

the imposture. And just the same motives which prevented him from reposing it would poward with very many conjurers under similar circumstances. All this one must renumber in

judging of the value of evidence from these sources.

I mu, of course, not at least opposed to the serious inventigation of the phenomena of occultism by real inquirers; I even go so far as to cossider this most desirable. Unly let one beware of believing oneself an expert, unless one is really so. I hold the impurint examination of these matters perfectly legitimate, and think that all those who, like Wurstl, would forbid it, utterly in the wrong. It is customary with a priori seasoners to perceive in the more fact that any one is making a study of either occultism or spintism a sufficient peool that he is himself a spiritul or occultut. With just as good logic, retores Dessoir, might we argue that all criminologists must of necessity be criminals. It, unfortunately, happens that in point of fact a really usprejudiced inquiry into occultistic phenomena handly ever takes place. On the one hand, we have investigation who either everlook or underrate the most important sources of error, and therefore themselves become disped; whilst, on the other, are those who, like Woodt, simply disdain to apply any test at all. Neither course is justifiable. It must, however, he conceded that the occultate themselves handly over allow their obstromens to be subjected to impartial observation, and that notwithstanding their leadly proclaimed rendiness to court inquiry beforehand, during the some itself some pretext will always be found, either by the medium or his assistant, or by some occultist or spiritus, to speet every attempt at ecsentific investigation. And yet, whatever the difficulties, it is the scientific method of dealing with such phenomena which alone can enable as to disprove them. In the year 1877, Wicland wrote a little tract on "Magnetism" well worth reading. In it he blamed the general tendency to turn into ridicule everything alike that had to do with magic, apparitions, or measureism, and to treat as fools, mad enthusiasts, or impostors all those who occupied themselves with such matters. It is the bounden duty of science, to Wieland at that date already clearly perceived, to give these things due attention; wherever the cry of the warewolf is raised bet the monster be leanted down, and it will invariably turn out to be an ordinary well among other wolves, or perhaps rather bigger than the rest of the pack. The task

incumbent on science has been sketched by Wieland in a few declare words, which to this day setals all their force. Let us not now be too optimistic as to the results of scientific investigation of these phenomena. Mysiciam is too deeply implicated in human nature, and as a succemporary rement of thought, forms, perhaps a too investable moreon normal recont materialism for us to be mer surgime on this score. The fact, however, remains that rational impuly and explanation are the only wedgens with which we may hope successfully to constant material accurrent.

The phenomena which I am about to discuss are as follows: (r) animal magnetism, (r) the influence of miseral traggettion on human beings, (g) supervisional thought-transference thelepathy, arguestian miserally, (a) claimopanes, (g) transposition of the sames, (b) the effect of drugs on approach or

contact, (7) occultism in general.

In animal magnetism a leading part is played by the personal influence contest by one individual over another, an influence brought about neither by suggestion cor by any other psychic agency. The following examples will make this clear.

An individual, A., says, for instance, to another, B., "You cannot speak." It bears this and is muce. This is reportion. If, now, A. makes memoric proces over Ec's arm, and analystia results in corresponds, this may also be attributed to suggestion, as B. is perfectly aware that A. has made the passes. Let us now suppose that C also makes passes over Bi's arre, without analyses ensuring. This, too, may be explained by augustion, by the belief on R's part that A. alone can produce analgeria, in consequence of which C.'s manipulation remains ineffective. Suggestion then will account for all these phenomera. But the case is a different one if B. does not know whether it is A. or C. who makes the passes. According to the believers in arined magnetism, the so-called mesmerists, B. does then asperience analysis when magnetized by A, but not when it is C who stagnetizes. is just by virtue, they maintain, of a peculiar force residing in him that a personal influence is expected by A., which neither auggestion not any psychie process will account for. They alone who are endowed with this force are able to magnetise selliers. These illustrations may serve to show what is at the present day understood by the expression animal magnetism (vial magnetism, his-magnetism, non-magnetism, meanwrism). There is however, a goan diffusion of opinion among believers in this power as to the precise meaning to be attached to it. Some consider it a torontal property of all markind, which, however, under unfavourable conditions in many cases remains simply latent. To some its possession implies the capability of influencing all people allow, whilst others, again, held cerean individuals alone to be receptive to this influence. Here, as in the case of suggestion, there are those who admit the theory that an individual who has proved sofractory to the experiments of one magnetiser may, after all,

quite well be magnetized by another.

They who are endaned with magnetic power are supposed to be establed thereby to produce certain active results, such as local or general analystiz, or contractions, also either partial or general, on the persons of those magnetized by these. According to Rochas, the subject may occasionally, in spite of analgesia, perceive some stimulus, such as a prick, for instance, at a certain distance from the epidermis. Borne cites similar instances, without, however, adducing satisfactory evidence that in the carrying out of his experiments proper precountors were taken. Ventin's testimony is negative, whilst Croop goes so far as to deny the feasibility of unitsing such coperiments as the base of any theory of animal magnetism, pointing out the wide scope for error they affeed, it being impossible to control the vibrations of the air and fluctuations of temperature by mining of which the magnetized person could become aware of the approach of the needle.

Among the further results of manuscrium must be noted the healing powers to which it lays claim. Magnetons has the power, we are told, of restoring the sick to health. In reply to the possible objection that these come might be attributed to the influence of suggestion, special stress is hid on the fact that quite small children, infants less than a tredyconomic old, have been successfully magnetised. Liebestalt, who published a redutation of animal magnetism to 1866, unhappently, at 1885, meanted, the change in his opinions being children to magnetic influences, to which his amontion had been drawn by the magnetism. Longwests. The cares effected among children land, Liebestalt more, completely consinced

him of the existence of animal magnetism. Even if the greater part of that which was set forth among the claims of measuremen were excly to be explained by suggestion, where yet, he thought, remained something inexplicable except by the hypothesis of animal or 200 magnetians,—to after the name that had been used by Athenaims Kircher, and afterwards by Bartels at the very beginning of the nineteenth century. Later on, Liebeault centuring gave up his belief in animal magnetism. That in these experiments or children wrong conclusions are often drawn may strely in a great measure arms from the fact that the frequency of sportaneous cures is no constantly overlooked. I have already referred (p. 297) to this very fruitful source of error, which plays a much greater part in minimaling in than is commonly

supposed.

In support of their view that animal interestion is something entirely distinct from hypnotism or suggestion. Dr Post and others of its adherents being forward the following arguments It is possible, they say, to magneture animals, whilst with them suggestion is unavailing. I am certainly quite of the opinion that suggestibility, in the sense of the word in which we are it with regard to human beings, is not to be looked for emung nairnals, for the simple reason that suggestion always implies a very ramplicated psychic process. It assumes the capacity for consciously undergoing a decided change, and I do not helieve that the understanding powers of animals-and more particularly of those, such as the cal, dog, borse and lion, sepposed to be specially susceptible to the magnetic influence, - are sufficiently developed for this to take place. But I am also equally firmly convinced that certain occurrences, reported as barrier taken place among animals, and accepted as famishing proofs of magnetion, in reality afford no proof at ail. Here, again, exidence of the healing powers of magnetism has been constantly produced, and here, just as with human beings, the simple fact of sport record healing has been too much neglected. Other results cited, such as the southing effect of patting and stroking a horse or dog, or the fascination exercised by the eye of the ratiferrake, have in reality nothing to do with magnetism at all. For however imaccomptable we may find the idea of suggestion as applied to animals, the possibility of very many psychic processes yet ormains to be considered. In the results obtained by reward or purishment we see these at week. And

in the gaine of magnetism the very same thing often takes place. When we quiet an excited animal by stroking it, the excess of our effort is partially to be accounted for by the fact that the animal has never been in the habit of connecting such treatment with impending danger. And in addition to this there are inherited reflex-nectuarisms of a physiological nature. Proper relates in his book, Die Seale der Kinder (The Soul of the Child), that an infant, little more than a formight old, was instantaneously quieted in a violent fit of screaming by being hid face downwards, on a pillow. He speaks also of the soothing effect of singing, whistling, or a gentle touch of the bland, even on isfants yet anseaned. Nor does he at all see in this a reflexionishistion, but merely the driving cut of an empleasurable sensation, with its motor consequences or reflex activity, by a new semution. Pfliggr had already cited the similar instance of a new-born, brainless infant, when screaming violently, being easily quieted by having a finger given it to suck. In any case, we do not require, in order to explain the southing influence of the touch of the hand, etc., to assume the intersection of some mysterious magnetic force. With regard to the susposed magneticing of mimals, just the same holds good. The results are to be traced in part to physiclogical reflex movements, in part to psychological influences. And however gradual may be the transition from the physiclogical to the psychological action, we are in no way justified in accepting the theory of tragnetic inservention is this "magnetizing" of enimals.

At all events there is no series of experiments extent that would compel us to admin the magnetizing of animals. I have myself redulously read through all the literature learning on the unippert, without being able to find, either among the old measuraints or their necessors, anything that could be remed a accordingly conducted experiment. Everywhere we have the same ensual observation, the same detacted experiments, lacking all exactness and arrivan control, everywhere the same disregard of those pitalls (e.g., spontaneous cores, etc.), against which I have no other warned. In the open of the general public, magnetic influence is very important in the relations of man to the animal world. This arous partly from the air of mystrry in which trainers of performing animals were want to invest their coals. They were often led to this by the very requiral wish to prevent some very elever track from being own through, and

in order to these dust in the eyes of the specialers they began
by ascribing to themselves mysterious powers. I need only
recall the commentary sensation excited by the performances
of the horse-major Rarry, some fully years ago. In his book
on the training of uncommended horses, Loiset advised the training
to irrest on being quite alone with the trone; while packing him
through certain trials, but the animal's attention should be
diverted from its task. This mornerway solution—which is, by
the way, a feature in the training of menty all performing
animals—gave rise to immunerable vague alliances to the secret

powers and mysterious methods employed.

Du Frel sees a further proof of minual magnetism in the experiences carried and on individuals during sleep. All possibility of engretion is, he thinks, excluded by the sleeper's own unconsciounces that he is being experimented on. To this argument it must, however, he adjected, in the first place, that sleep and unconsciousness are not synonymous terms, as the turpe art of voluntarily waking from sleep (p. 164) clearly proves; and secondly, that, as we have also seen (p. 181) in the case of dreams induced by nervous atmulation, a person in sleep may be perfectly susceptible to external influences. With regard to the whole question of experiments on sleeping persons, the same remarks apply which I above made concerning experiments on animals. Any number of excepting general assertions are made on the subject of influences extited over people during deep, and incidentally even experiments quoted with truch fulness of detail; but for snithing resembling a series of experiments, subjected to strict scientific costrol, and therefore admissible as trustweethy evidence, we may look in warn. We are constantly assured that such experiences have been successfully carried out, has for my own part. I have been quite unable to find my that afforded exact proof of that which was to be demonstrated.

We see also told that it is quite possible to magnetise people who are the resolves unaware that this is taking place, 2s, for instance, at a great distance. Magnetism must exist, it is segred, to account for this, as for the kindsed phenomena of telepathy (super-original thought transference) to which I shall rature shortly. Then, again, we have the magnetising of plants, with its etimologic action on their growth, the transmission of the magnetic force to transmitte substances, such as water, which then carries on the action of the magnetices, said

these we given as proofs of magnetism. In the same category we find an enged the following—the creation of some ambulic states, during which the marvellous phononers of clarroyance, transposition of the series, etc., etc., occur; the attraction carroand own the magnetized person by the magnetizer, the perception of the magnetize fluid by the former, his sudden exquaintance with languages to has never learned, variations in the weight of bodies, said to become heavier and lighter under the influence of artifact magnetism, the setting in motion of objects without mechanical means being employed, fluctuations of the magnetic needle, power of descripting aromal life by a look,—and much more of the same kied.

Some of these questions I must still deal with. Very nearly all the assertions of the measurements I have myself minutely tened, and have given an account of some portion of my observations in my book. Die Ropportis die Rypnise, published in Largeng, 1802. Several other investigators had associated thermathen with me in this impairy into the existence of animal magnetics. On critical examination, the result of all our experiences was regardire. The meanerints themselves constantly ministerpres their own observations. That a magneticed person may at times discorn "magnetized" water, is concer-It has, however, nothing on earth to do with nagrations. In the first place, it is very often impossible to prevent a slight rise in the temperature of water that has just been magnetized. Secondly, it is highly probable that is the act of magnetoing, which is generally accompanied with the gesture of flourishing something in the direction of the water, chemical valuations way be introduced into the latter, and may bring about an alteration in its trate. But charmeal dissociations have nothing in common with magnetism, which is supposed to represent a physical force. This imentional confusion between chemical agreeds and the magnetic force is a good proof of the want of electrons presuring on the subject amongst most metmeritts. Just the same want of element distinguishes the aroung to for magnetic impressions by photography. It cannot possibly he denied that the atmosphere immediately supported the hody may exercise an influence on the photographic plate, than heat rays and obmical rays—ie, rays imperceptible to human wiscon may very often come into play have that what all this has to do with animal inagratism it is not so casy to use. As a specimen of the etter confusion of ideas prevailing among

memerists in general, I need only give my own experience of the trul of the Tibit quark-dortor, which I attended in the character of professional expert. Buring the whole proceedings, Scheoter, the memerist in question, kept trying to consince me that he had a certain magnetic force under his control. The argument on which he chiefly relied consisted in taking in one hand an india-rubber bladder filled with water, which he present against the window pane; he then placed his other hand flat against the pone, and showed that round that one a light film formed, not, however, much the bladder. To this supposess deposit, produced by cold, Schröter pointed tramplantly as a proof of his own magnetic powers. Exactly the same confusion of ideas attends the photography of invalidious and smellar experiments.

For the present only this much can be and: the statements of most meanents are extremely confused; things that have no possible connection with magnetic force are cited by them in proof of its existence. Nowhere flo we find any series of exact experiments reported, in the conduct of which all sources of error were to candidly excluded as to furnish a satisfactory proof of the existence of animal magnetism. On

all sides only usproved assertions.

Measurerists have propounded quite a long list of theorem. only the principal of which I can allude to here. According to Meamer himself, whose theory has been made the subject of much misrepresentation, the whole universe is filled with a flaid, more subtle than the ether, just on this is more cabile than air, and air more so than water. Vibrations, he maintrined, take place throughout this fluid, just us they do throughout the other, air and water. And just as light is transmitted by the vibrations of the other, so, he concluded, are phonomena of another nature conductly produced by the whrations of the all-porvading fluid. On these vibrations be believed the nutual attraction and repulsion of the heaving budies to depend, and that they also determine the interchange of attraction and regulation between bodies endowed with animal life. In the vibrations of this field Mesmer considered animal engection to reside. Mesmer's theory of the magnetic fleid his o'ben been confounded with another, accreeing to which the nerves of the human body contain a fluid that may be conveyed to the surface by motion from within. This was propapited by the celebrated physiologist of the eighteenth centure,

Alberthi you Haller, who even went so far as to act forth against Measure claims of pojority of discovery, although, as is perfectly obvious, the two theories are quite distinct the own from the other. That the activity of the sensitive nerse-fibres may be exercised at a certain, though perhaps very limited distance, was admitted also by Alexander von Humboldt, and his opinion was concurred in by the well-known automost and eliminian, Reil. More than once the hypothesis has been put forward of electric activities being called up by the measuring justen (Rostan, J. Wagney). Tarchanoff has demonstrated that the application of gentle trimuli to the skin will excite in it slight electric currents, and that, moreover, a strong effort of concentration of the will, with the murcular contraction by which it is invariably attended, will also suffice to produce the same. Now, since meanerists always insist on the necessity of strong tenuion of the will on the part of the measurner while making his power, may not a peripheral development of electricity be induced in his person and passed on to that of the individual he is mesmerining?

Contenting myself with most reference to the fact that certain measurerists (Navie, Barbaria, and others) do not believe to the existence of the magnetic fluid, I pass over various theories, practically valuelize from the scientific point

of view.

In support of their contention that the magnetic conditions are in no way connected with hypnorism, meamorists often bring forward the argument that drep is by no means require for the concine of magnetic influence. In reply to this, we may remark, that also with persons being hypnotized it is only in the case of a computatively small informity that sleep is induced (of. p. 60). And in any case, vaggestion may, as we have went, be excepted independently of either sleep or hypnasis. At a farther distinction, they are foul of political our the important part played by the personality of the magnetienr, in already, however, that this is not absolutely correct, even were the magnetions of the come as essential as, without sufficient evidence, they commandly assent. Not that measurements are in the least embarranced to account for these discrepancies; Should an object, as in following Benid's wethod, not have passed through a magnetizer's hands, then, as Mosicourt explains, it will suffice for the subject to gaze fixedly at it so that his own magnetic fluid may be reflected therein, and by this he will in turn himself be influenced.

Not simil the simple fact that it is in the power of another person to provide physiological or psychological results, which we ourselves by the use of apparently precisely similar means cannot obtain, be interpreted as an argument in liveur of arimal magneton. Take the well-known example of the trighter occasioned by tickling. We can none of an male conserve laugh by tickling. And then are plenty more examples of the same kind. I had earlier (p. 84) occasion to remark, how if another person's hand approaches our eye, we have a natural tendency to alose it, even if we do not in the least dread across coreact. In another place (p. 400) I pointed to the special results obtained by the Insquent repetition of the same words on the part of the doctor; these results the patient is quite powerless to produce, however carefully he may repeat the same words to himself. It is an undeputed fact that by the touch of a sympathetic person a pleasurable sensition may be evoked, and by that of an antympathetic person a draggerable one. In the case of local pains and teman other semations, the banch of a sympathetic perior may have a is neficial offect, -- not that of an unsympathetic one. If then becomes evident, that the very same physiological and psychological stimuli, when applied by ourselves, may be very far from giving the results obtained by them when they originate with another person. The whole quintion will detrands much elucidation, ulthough endless physiological and psychological theories have been started for the purpose. That of Demoschy. would attribute the sleep inducing power that he is the touch of a hand to a merely thermal inducate. And yet this would most assuredly not suit all cases, the application of warm compenses, for instance, having very varying results. It is underliable that purely physiological processes often play here a highly important part. This appears most clearly in sensil intercourse, in which the sery same physiological stimulus and the very same psychological process produce quite different results, according to the degree in which they commond to the facility of the person employing them. Normal sexual intercourse, even at the supreme moment, never produces complete gradification is a homo-sexual man. And yet here the peripheral simular carnot be said to be at facil, but simply the fact that it does not correspond to the beeling in question.

In this, as at other examples given of difference in the results brought about by similar physiological agencies, animal magnetism plays no part. We have in reality to deal here with immor tendencies and psychological processes, a detailed analysis of which certainly at prasure exceeds our powers. The assumption of the existence of animal magnetism is, however, interly superfluous, and it furnishes no explanation at all of the phenomena under consideration, whether the reflex-closing of the cyclicis, or the effect produced by the breich of the hand or persistent reportion of the same words.

It is surely a susception wrong-headed proceeding, if, in order to account for phenomena which are not quite clear to us, we drag in the agency of a perfectly hypothetical forms, when we know the whole time that this force, even if its evialence were proved, would be inempalie of explaining the phenomena in question. Alterdy some time ago, Lemone, in his book, the Sammel, hid stress on the fact that the phenomena of magnetic someambolis, clairvoyance, transposition of the armost, etc., cannot, even if we account them, be explained by animal magnetism. The attempt, therefore, to make these phenomena, even if we admit then existence, the hois of a theory of humal magnetism, must be distinctly

negatived.

To convey suggestic force from one person to another, various multipalations, and more cape ally the magnetic posses, are commandy employed. At times more cornect, the intercharge of a fixed gaze, or light broathing of the magnetier over the subject, may prove efficacious (Emety). In conguestion with such manipulations, or even without them, according to some of the older measurests (Paysegue, Nassel, intite encontration of thought and of the will on the result aimed at is specially recommended, and there are not wanting in the younger school of misminus those who consider that this should in itself surface. In all books dealing with primal reagnetion are to be found a number of precepts concerning the heat method of magnitudes. Much information is also given about the disc tion of the magastic passes. Accordingly my they are much speared or discovered, and with the palm or the back of the hand, their effect is said to vary. There is also suggested to be a difference observable in their action or the right and left ade of the body. Reference to magnetic polarity is also made. The principle had been admitted with

regard to man by Fladd, Heller, Mesmer, and a little later by Scoresby, and has been defended in our day by Charanian, Docks, Durwille, Rochas and Baréty. But they commudest one snother so flatly concerning the divergence of these pales, that I feel constrained for the moment to look upon the supposed polarny as an involuntary outgoonth of protessional training,—in other words, as a piece of unconscious self-deception on the part of the experimenter. Basedon were alludes to an manuscreat by means of which he thought it pointle to measure the exact magnetic relations of human beings one to the other,

and to reduce them to a formula.

The ductime of animal magnetum has been tunted to practical account in its one in therapeutica by the so-called magnetopaths or medical magnethers. Already some time ago, Göler you Raversburg and others called attention to the sumerous sources of error in this field, and these are equally profife at the present day. Magnetopatha claim that the existence of animal magnetism is demonstrated by their ones, overlooking the very important point that these cures are partially assisted by suggestion, partially by spontaneous improvement in the health of the patient. They also pretend, it is true, to effect curse in cases of such diseases as career. takes donalis, etc., incurable by scientific medical treatment. But in spite of all their noisy self-assertion, the true position of affairs is this not one single well-authenticated case exists of a disease of this nature having been exced by magnetic treatment. To start with, it would be a recovery condition of such cares that a proper diagnosis of cancer, or wholever the disease might be, should be established in an unassailable fashion by immifically qualified medical practitioners prior to the magnetic treatment. The absence of a serious ectentiale diagnosis (of p. 319) can never be compensated for either by those fernished by the patients themselves, or by the magnetopaths, quite capable of taking an inflammation for cancer, or neurasthenia for tabes domaits. As to the manner on which their diagnoses are made, a single instance may vittee. A good many years ago I had a visit from a fraction van X, "qualited medical pagnetices," as was stated are har rand, who wished to convince use of his magnetic nowers. When I inquired how she proposed to accomplish this, this asseed me that she had quite recently cured a case of arysigs tay in the face by a course of unquesting. To my next

inquiry as to how her diagnosis had been made, the replied:-"It was a red spot that turned white on pressure; consequently it must have been enysipelas." And this is the sort of diagnosis we are asked to accept as evidence of the curative powers of magnetism! The very names given to some of the illnesses are enough to arouse suspicion. Thus one patient is said to have been cared by amgestian of "evelling of the cardiac saless." Another is described as having suffered from "gout in the brad"; while in a third case, that of a patient one of whose lungs was errically affected, a three weeks treatment is reported to large caused the diseased organ to "scalt over." Another potient had "serious opposition of the atomach," and one scoum's organs were "all of a wobble." The more appaling the diagnosis, the greater should be our caution in accepting it as correct. Nor must it be forgotten that magnetopaths very often employ other methods simultaneously with their own. They prescribe, for instance, rules of diet which are in reality the unincipal factors in their treatment, the magnetizing itself having no specific action. But it is to magnetism that the good results are ascribed, which are, of course, in fact due to diet. An alcoholic patient while being magnetized, received the injenction from the magnetopath to abstain from drink. It will be very readily believed that the condition of a man suffering from alcoholism will improve as long as he gives up drinking. Only this is no argument whatever for the existence of animal magnetism.

Magnetopaths constantly complain that science does not recognize their powers. In point of fact one magnetopath does not, as a rule, recognize the power of a follow magnetopath. The magnetopath A hears with a pitying smile of the magnetopath. For magnetopath B, claims to hold control, it may not be minteresting to my readers if I here reproduce a letter written to an acquaintance of mine by a magnetopath. It shows how these gentry make their diagnoses, and also what one magnetopath thinks of another. The pentisman, who had once been a patient of mine, wrote a description of his mainly to the magnetopath and received the following apply:—

"Dest Sir,—I have received your extremed communication, and will make an exception in your case, a thing I otherwise sever do without a fee of mercy marks (d st. because I have been taken as too clear by the general public. As your compilate in sorther dilutation of the best mor general public. As your compilate in sorther dilutation of the best mor general public.

completely raised. Your whole tenthle is the small of a perfectly sermed nirculation of the blood carried by the oldewre, which store not functionals properly. The hest I can say and advise in come to me, then you will proteins he exped of your complaint. You should write to use betterhand, so us to enable use to enable an appointment, so my services set in great report. Your dribbilly, there follows the signature). I do not know. of a suspection ranged N., in the locality you mention, and I was mare you to be very smeltd whom you take to be a suggestion !!!."

This magnetopath also establish the vistor of long a friend to his own family. When he was again parationed about a magnetice in Magdelung or Massace, he replied, he did not know of my such in these toward "There are very few 'undercethy magnetizers in Germany." To this communication there was also a postacrift; "My son Henry can also cate discuss at a distance. Von may under to have here" (address given) "with parties confidence."

Magnetopaths certainly assert that they can prove their magnetic powers in another way. As a rule, the proof is supposed to be in the results they say they have obtained As I have already mentioned, the experiments I made in conjunction with other investigators only gave negative results Hot since 1842, I have repeatedly expected my willingness to experiment with persons who believe that they possess magnetic powers, provided the conditions are stringent. Although it is frequently asserted by occultists, and also by magnetopaths, that they are ignored by doctors, londly any one of them has placed himself at my disposal. The few who have done so come completely to grief. One of them was the well-known Horr Schulbler. When proper procustions were taken, Herr Scheibler could never prive that he pomessed any magnetic power whitever. These experiments, to which I shall again report, could only be explained in other ways. A second gentleman, a well-known Berlin magnetopath powersing an concerney diploms, also placed himself at my disposal. I experimented on him in conjunction with three of my Berlin colleagues, Drs. Gampertz, Leo Hirschiaff, and Fritz Koch. The experiments led to nothing, a fast which the vehice himself had to admit. He had, for example, asserted that he could produce any sensation he wished-warrath, cold, twinger, etc. But every experiment failed when the subject was uniware of the armstion that was intended to be produced. Recently, a doctor who called histaclf a magnetopath came to me for the purpose of making experiments; but he turned out so he just like other magnetopaths. To him the simplest suggestive influence only meant animal prognetism.

I once received a communication from abroad, in which a magnetogath fortied one to rooke certain experiments. But I must carefully admir that the latter, which I reproduce revisition, did not impose me with much confidence in my correspondent; consequently I did not see my way to carry out apparaisant which would be free from repeated. This letter should show the mental treat of many of these magnetizers. The letter man as follows:—

Dista Sin, -- I have been processor of your book Hypertim about a year. In case it may affect you interfection, I will having you a proof of the extension p. 383 of your words, that I really have a special power at my command-fig., even if I only powers such for nevertheless time the slick or corry hind with all admired wedstates and other manipulations but notify by more words suspending annulate us to Chrise the Lord also did, ye said west thread seven times in the class Juniar (meaning the same at in the Some, Scine, Minne, Durabe, or the tab at home) upon to another go thy fairly fiath believed there, but only believe much in vertilitally present can I assure this but specially especially for each particular case further this is all on realities the sick person tells my all the signamentaries and according carcumatances upon which I tell him whether a rare can penalty be made to me for feath and constant sickness also descend their victims. More ever it must be numerously that its certain diseases the patient is not at uses continued I wear, that he is tured, but this differs shout night days to one month or occural or even largered that. This is one and the same power with which Christ healed but it meccuitates a specially individual call assertion by the Drity which I have specially melectard for your better temperheusion in the prospectus enclosed horseith. That I am called I an arely cominced because the gift of children more has validad one to farmer the events of my lab for years that something of this kind would become very powerful as it progresses that is their princip equipages will make was for me in the other street, even if only spiritually antirested and there workfly milturity will mad to punish are and will not be able to do any basis and all this from the beginning on till to day lies in the tame power fencehed aliers. Similarly a war of the ome kind purphoind of me when I am to be apportion to a jumes in stones to my manier's medies whether she thinkly put me to it the man mentioned above midret, has that I would not always remain at it, which proved true in an quice a pear. This power I have achieved, the humbition went be famile which come by developed by carried collections reading the Bible this I will light from above for otherwise the words any true they have ever and me not, cars and hear are, understanding and do not endenteed and U. pat the same with that beyond a work 2 videous Polympi meetinged by you which revenues perfected chaptoners, but what does J. Kenner any of the counters who was used ; sell r. p. 300. Reboth how missingers sender the proves of marriel correspondence of prives and chief high high at the end of his mention. Now if you would like to have consisting

<sup>&</sup>quot; I do not persend to be able to do justice to this letter.-Transparen-

proof of what I have stated about myself you might respect any sick person you about to write to me and you would discover what you cannot make believe and I remark in addition that you will be allowed to rend every thing I communicate to the ordinal, and also led out examine recepting. Further I will add alous what you write on p. my (Post-bypectic Stead-Sciences) about that most wise and join may Smarter, that I also know developed this gift has that there can be no question of inflationistics and delmins bet of the room convincing reality, him to this must be affeed that any our who wants to undertake such things must first of all have assepted power trees his hody and he very much like the noblest character god as far as it is possible for a human being if he does not wish to some to temporal and sternal grict. For the deall can quite well be reasoned with, only one may know how to do this as well and letter that with many a neighbour for he is a very clear-nighted gentleman and as the Hitle steady tells at only namelled with Party &c. Hitten because becould not stand anything superior to himself. Therefore is may also be obvious to you that it is eary much better to reason with the Prince of Burkers that with stapiday d.e. powerly of mind and supper electrons with which the would of to-day is command where the gods themselves strice in tain. If you say flear Six thinld this and refer it to the realist of helluciaation you must do just the same with Kerner's Sorress, but I am constraint this is most probabilly from from my own experience, but how to understand this is disclosed by no science only with 1975 belief are the professibles of all knowledge disclosed as Gothe shouly said.

Awaiting your Unit agreement and reply,

I remain years faithfully.

[Symmers]

The assertion made by magnetopaths and similar persons that they are totally disregarded by doctors, is in any case incorrect. Apart from the fact, that during the period of its greatest prosperity animal magnetism played a part in officially recognized science, magnetopaths have at all events had roportunities for having their supposed powers tested scientifiearly. I have offered to make such tests, and undoubtedly others would do so also. Considering the constant complaint of magnetopaths that they are ignored by medical men, one would think they would take advantage of every opportunity given them for having their powers tested; list this is far from the end, for during the lifteen years that have objected since I offered to carry out such experiment only there of these zentionen have allowed their supposed magnetic power to be traped.

I now come to the question of mineral magnetism. Relief in the action of the regret on human beings is very old. The magi of the East used the magnet to eare disease, and

the Chinese and Hindoor did to long ago. Albertas Magnus is the thirteenth century, and later Paraceloss, Halmost and Kircher also used at So did the astronomer and ex-Jesuit Hell, of Vienna, at the end of the eighteenth century. It was from him that Measurer is said to have learned the influence of the magnet on Sussan beings. As we saw on page 6, Mesmey mod the magnet at first, though even then, some doctors-Deimane of Amsterdam, for instance-denied the thempeutic action of the ranguet and asserted that been places did as well. Red also used the mannet. In the year 1545 Reichenhach asserted that some somitive persons had pecular sensations when they were couched with a magnet. He also said they my light-the so-called (W light; an assertion that was long supposed to be disproved, but which has lately been again made by Barrett in London, and by laws in Paris, on the grand of fresh experiments. According to Schrock-Nothing, Justrow and Pickeying have specially emposed the several of the Of doctrine. Still, the apinion that the expect exerts a specific, and, more especially, a therapeutic action on the buman body, has many anterents. Maggiorant in Italy, has tately contended for the therapeutic use of the magnet (Belfiore), and the subool of Charcot has asserted the influence of the stagnet on certain individuals. Benedikt also, in opposition to a few American investigators-Penerson, Kennelly-who had attributed the therapeutic action of the magnet to siggestion, advocated its specifically physiological curative action.

But some people suppose that there are further affinities of mineral magnetism to man. Formerly, it was occasionally assumed that some people could defect the magnetic needle by merely approaching it, and more particularly by putting a funce near it. Wolfart relates of himself in his Erdinbryon new Magnetismus, that he could exuse the magnetic readle to deflect and incline downwards by bringing his finger near either yole, and that the needle was so firmly hard at its new position that it did not at enon muct to a strong magnet, whereas Welfart was able to restore its normal equilibrium by making a few counter-passes with his finger. He consequently supposed that there is a definite connection between mineral and animal magnetism. Further, Da Potet reports, that a subject named Angelika Cottin could deflect the maggetic needle by merely bringing her arm sear it (Perty). Fechner, who was very scenarial with regard to Reschentach's Of docume, and who

was more inclined to look upon the deflection of the majuratic model as a dispersol and not a support of that doctring experimented on one of Reschendoch's subjects, a Frau Ruf, and was convenced that this lady could defect the magnetic wordle. When Frau Rail stayed her finger over one of the poles, the needle oscillated just as if a baneragnet were being waved over it. Although the strictest conditions were not imposed - Fechner wanted to do so, but the magnetic power of the hide abated-Fortner did not consider himself justified in assuming fraud on the part of the subject, and declared he was convinced by the experiments. He added, with that modesty which is so characteristic of the end arrowd, that he had throught of the possibility of hallaciration, but he considered he must discard that impreson became another investigator, Professor Esdimon, witnessed the experiments and also observed the mass phenomenon. But we are quite justified in thinking that Fran Ruf produced the effects by means of some sted object which she led conveiled about her. Morewer, Feeliner does not claim that other people were reminded by the experiments. Only, at the end of his book he simply recommends investigatees to be on the look-out for tonic such handriest procedure. As Unici reported in his work on tocalled spiritualium. Slade was able to deflect the magnetic reedle. In the presence of W. Weber, Scheitner and Zollner, Slade deflected the needle go' to 60' until it finally made several complete revolutions, although his hand was quite a foot from the compass. He is also said to have magnetized steel leattingmoddes. The Trisit magnetopath, Schooler, asserted when on trial for quarkery, that he could deflect the magnetic needle. himself without employing any fraction. In connection with Hamack's experiments, which I shall presently docuss, I may here mention that Max Breitung states that he also has employed a thin knitting-rod, such as a used in making fishingness, to test his own magnetic power, and that he first natgretized the rod with a borse slose magnetic and then burg it up. He states that when he laid the thumb and first two fingers of his right hand together and brought them near the needle which was freely suspended, the needle followed his hand to the right no matter which pole was approached. The needle literally ran after his hand. On using the fingers of his left hand the needle was defected to the left. But swee Breitung himself states that he cannot deflect the needle of a compass by means of his finger-tips, it would be as well to find our whether these was not some source of error in his experi-

ments with the knitting needle, such as draughes, etc.

It has also operationally been pointed out that there are some people who are so electric that they may even emit que'ex-Da Bois Reymond doubted these statements and thought, moreover, that the whole question was of but little interest. It has also been stated that steel becomes magnetic in certain persons' hands. Eisenstein relates of his subject Leopoldine E., who was chief subject in the Vienness experiments mentioned on page 12, that the could turn onlinary seed seedles into magnets simply by touching them. She told the sudience and Dr. Hummel, who was commiling the experiments, that she only possessed this power when she was tited and ween out, an not when she felt quite well. But when the experiments were more carefully controlled, her assentens were not unbatteriated. The magnetoer Laforthine also stated that he could render from magnetic, and reald produce a north or south pole at will according to the posses he made; he further stated that he was able to dentive a steel magnet of its magnetism by a proper process of magnetizing. He also further ascepted that he could render water so magnetic that it would came a galementer to show a deflection of from to to to ... With one of his patients, Thilories, he approached the Analysis dee Seirnes with a request that this fact might be tested. On June 10, 1844, the Academy appointed a commission consisting of Poulliet, Datrochet, Peoperel, Chewral, Regnault, and Magendie. The experiments proved transcentful. Lafontaine blamed Thilorier on the ground that the latter did not understand the business; but he refuned to make any feether esperiments, asserting that the commission was prejudiced.

Certain experiments that have recently attracted attention are of a somewhat different nature. Each Harmack, for instance, is continued that he can defect the compass needle by milhing the glass-plate with his finger. Harmack assumes that the friction produces statical electricity, that we have to deal with a process that is not seemly unchanica-physical, but with one that is distinct and popular to certain individuals. He came to this conclusion, became (1) apparently stronger emerges of frictional electricity did not defect the needle, (2) the longer-tips of numerous individuals did not possess this faculty, (3) he only possessed it at times. Harmack thought

he refused the objection that the process was only mechanicophysical, because he tested the somion and found it over rocci volts. This assumption has been disputed, notably by Berbe, who experimented with his own finger and also on the corpor of a min sixty-rice years of age. Bethe was able to get a tension of 1900 volts with the finger of the dead man when it

had been dried in the extremator.

But in spite of these objections, Harmack's experiments soon to me to be of such good importance, and so interesting, that we cannot but carnotily desire that they should be just to a further objective and scientific test. But the question whether the processes were physiological or merely mechanical does not need to me solved. The rapidity with which Harmack obtained each a high tension—too with which Harmack obtained each a high tension—too with with one pass—is certainly catronicly remarkable. Expense sour commise this question further, and objectively. This is particularly mechanics or as to provent recurbants and ungraetopaths making an amountaine use of Harmack's experiments, as they might otherwise do.

Of course, experiments, the results of which can be made use of should only be carried out under the strictest conditions. I think I may assume from Hamach's own publications, that he was not invariably as careful as he might have been. He speaks of cases in which people were supposed to cause deflection of the magnetic needle by murely approaching it, though he himself had so rub the glass-plate. He was able to experiment with two people who were said to possess this power. With one of them the experiment haledhe assumed the subject was only a magnetopath in her leisure hours. Hamack writes, "I obtained better results in the second case, that of a woman of the educated classes. It was only by accident that she became aware that she possessed this poculiar power. She told me at once that she did not always succeed in defecting the needle by approaching and withdrawing har finger (the never rubbed the glass-face)." In his experiments with this lady, Harrack used a rather large, but simply constructed compans, with a glass-face; the needle was about 4 inches long, and very semilist. When the experiment had been going on for about ten minutes, the needle suddenly defected in the direction of the subject's finger tips. The deflection gradually increased to from an' to 25". Rarouck considers this experiment, which he often

repeated, shoroughly convinging. During the experimenta "the lady were nothing that was made of stool, and no stays," and Hamack thinks that this excluded all possibility of frand, because if the subject had had asything made of steel about her, the neuflit must have been affected directly she approached the compass, but nothing of the kind over happened. Hamack further shinks that the lady and her husband took no special interest in the matter, but were solely concerned in serving the cause of trath.

But the experiments Harnack made with this lady are not conviseing. His assumption that if she had had anything steel about her it would have carned the needle to deflect directly she approached the compass, is incorrect. That would depend upon whether the steel object were fronly storable, so that the might wealous its action when the wished. At all events, I have not been able to discover anything in Harmack's publications showing that those precustions were taken which are absolutely occessing, if the possibility of some steel object being consealed about the subject is to be precluded. It would have been all the better if the proper premetions had been taken in this case, as it is the only one in which Harmack saw the needle deflected without the glass plate being rubbed; i.e., supposing the observation was free from ener, we have here a proof that friction is unnecessary. Unformmately, Hamark and not take the necessary precautions in the case of this lady; perhaps he was unable to do so, for it is esponally difficult to get any one, particularly a lady, to observe all the necessary conditions of a scientifically controlled experiment. Moreover, Harmsch's great confidence in the verselty of the lady and her husband is merely subjective, and does not fully people their truthfulness.

I have good authority for stating that this lady, who is supposed to be able to deflect the traggerou needle. In the very some person on the quinties mathem called the gluons energyly, about whom Witholm Window has senting in his work. Now happens for regulational Applications, Laping, 1990; I have experimented to be up these different occurred forming the language years. These opportunities have also emitted me to follow up the "audition" of the harly's powers. I first of all investigated the "appl" which reserved such a stir to the apprilation width. A foundamen of the Managargor Nacdonialous, of blanch 20th, 1903, receives on account of the Managargor Nacdonialous, of blanch 20th, 1903, receives on account of the determines I then belt with his lady; it was written by Engine Beithed, who was present. The suppriments were made on my boose, and a pumilier of vigocom and load tops were beard as long as the halp were less

mode, but directly I got her to wear fiel siggers the mouth were grattle and dail, and when I held her text down there were an somely at all There can be no doubt that the made the tops with her hat, your, etc., etc., I spin experienced with her about three or four years ago. At that time the question investigated was the supposed defection of the magnitude strolle, and she whether other objects, such as worden mes, to a sing empended by a dirend, would move in her prosence without my mechanout and A whole series of strings that I held with the lady-while merrower, came to me most willingly and charged to fee-gate some but sugative smalls. I now come to the fided period in which I expurimental with this lody. In the years that buil intervented she had greatly improved to a medium. She could see speaks, and there are numbers of photographs of sprint school, of more whom the it taid to have naturalised by means of her moliculate power. The was new also said to be able to summer. therets from vater that were firely thitered and trainly without my mechanical assistance. Unfurinoately, when this experiment was tried in my hours, it proved a complete inflater even the mater did not appear, bough the voices of a few appared spirits were beard. I have never donter? for one moment that this was nothing for earthingams par the part of the medicat, who may, so pasy and fitter been in a tenarce. Test anperiments - d.c., experiments carried out moles existly assemble confrience. which the histand had promised a should have the opportunity of making, were and made after thin. Indeed, Mr. X. wrote to me and said that it was generally thought that I was unite smalle to provide a proper stalling in my hours for the occurrence of occur pleasurems. I can only hope that the lady's spoons, who put me off to some little date, will not delut the falliances of his primite and Caberder practice. In may over, Huestack next select, that if spirits appear to a lady, and has presumed is said to sender sold salatomes proctable—the experiment federi when find in her mewe ought to be particularly caution when dealing with experiments made with the maynetic needle.

I have expressly given a somewhat detailed account of this case, as it affords a warning against the narrow and creditity with which amendate so often enter a domain of research that is new to them. On this point I offer to what was said on page 482. It is an unfortunite recessity, but men of science must always mistinut persons who are strangers to them.

I are not for our consent emerging that it is atterly impossible for Summe beings to differt the magnetic needle critical the aid of context or friction. A point negation is an error often committed to account the circles, automorately. There can hardly be any question of impossibly where account in resourced Only, we must demand the most exact demonstration where such far reaching assentions are made. And we will do so in this case to prevent discredit falling as the extremely interesting experiments. Harmsek has made on himself. It is necessary

that Hamatk should experiment on others, and only mader the strictest conditions.

The greatest raution is necessary for the early teach that occultists and megaetopaths are only too ready to put their own interpretation on all each things. As a moreer of fact, respectopaths certainly obtain no support from the experiments which Harnack made on himself. For if we consider the capacity for generating electricity a proof of the existence of certains magnetism. Harnack must be a very good basing magnetiser, but then the magnetopaths would first of all loves to prove that they peaces this capacity. Apart from this, we can quite easily generate the same quantity of electricity by means of the securital machine, which means that persons

possessing augments parent are quite superfluious

I have hitherto only discussed the mental relations between human bessess and mineral magnetism. But it has been mounted that certain special relations subsist between hypnosis and mineral magnetisms. I have already spoken of the application of the magnet for inductor hypnosis (p. 40), as well as of the action of the hypnoscope (p. 48). But the magnet is also said to pushee special effects during hypnosis. The pleasurement of transference must first be mergioned here. According to the school of Charcot, transference means that certain planners, inflaenced by some authorio-genetic expedient, particularly the magnet, change the place of their appearance. Charcot says that such phenomena occur in bysterical patients. Thus, commenues on the right side curby transferred to the left, so also can acousthesiae. But most experimenters supposed that the subject's expectation prodired the effect, and not the magnet. They also found that scaling-wax, fonce, etc., produced the same result, provided unly that the subject expected it (Westphal). The school of Charrot say that phenomena of transference, similar to those observed in the case of hyersnicals, also take piace in hyprion. Biret and First think they have discovered laws governing the course of the transference in each particular hypnotic state. When latharry on one side of the lody and catalogsy on the other have been induced by cloning one eye, the approach of a magnet causes catalogue on the lethingle side, and on the catalegue side leihargy. In the same way, when the state is someombulic on one side and catalegtic or lethargic on the other, the magnet causes transference. But also, in each

particular hyperotic state, symptoms can be transferred from one side to the other—e.g., construction as letturgy, particular postures of the limbs in catalogue, hallocinations of one side, and bean amounthesise in the someomorphic state, etc., etc. lines and Féré say that when hyperotic subjects write with the right hand, they write with the hight hand, they write with the hight hand under the influence of the magnet, and at the same time reverse the threeties of

the writing

Another method of influencing hypototic subjects with the tragnet is called polarization. It is a reversal of a functional state (Befriore). Brock and Fire are the authors of the experiments on polarization, which are confirmed by Bianchi and Sammer. It is probable that these are all cases of maintentional capportion. It is said that in some cases the magnet resolves a contracting induced by augustion (motor polarization). It can busish a suggested Influrination, and can change the mental pictures of colours into their complementarius; if a subject believes he seen files, he thinks he seen yellow therappy polarization). Sometimes there is an arbitrary charge in the colour sensation-for example, yellow clampes into red; this is called dispolarisation (Lombroso Ottolerghi). The magnet is also said to charge a happy frame of mind into a sad on-(mental polarization). A committee of the Medical Congrue at Padua was unable to confirm these phenomena. Tanzi was quite right in referring them all to unintentional organism. The tame may be said of analogous assertions concerning matters which partially belong to the domain of therapeutica Venturi and Ventus used mental polarization therapeutically, and they say they conquered a fixed idea, an auto-suggestion, by applying the magnet in the waking state. The reverse of this has been observed. Raggi thinks that the approach of a magnet in hypnoxis often causes subjective disconfiert. In other cases the magnes is said to have put an end to the hyperotis.

Temberine and Seppills state that when a magnet is brought close to the pit of the stomach it influences respiratory movements in hypnosis. Later on, Tamburini and Right found that other metallic bodies produced the same effect; the strength of the effect, however, depended on the size of the piece of metal. The electro-magnet is strid to have the same effect whether the current is open or closed. For this reason Tamburini supposed later that it is only the temperature of the metal which has the effect, and that the magnetic force

may have on inflaence.

Lastly, I must mention litabinski's and Lays' experiments. If a hypostized subject and a sick person are set back to back, a magnet put between them will cause the sick person's symptoms to pass over to the hypostized subject. Hysterical contractures and dombness have been than transferred, as also the symptoms of organic disease—e.g., multiple scierous. The transference is said to take place even when the hypostic has no notion what the sick person's symptoms are—e.e., when suggestion is excluded. Lays went even further. When he places a magnet test on a sick person's head and then on a hypostic's, the mosted symptoms of the first person are

supposed to appear in the hyprofixed person.

In these experiments of Babinski and Lays we have an obvious combination of the phenomena of mineral and animal magnetism. It is a significant fact that such assumptions as these base hardly ever bear made in recent times by men who must be taken seriorsly. We are, therefore, justified in now assuming that the results obtained by Babinski and Lays in those superiments were due to suggestion—i.e., that there was self-deception on the part of the experimenters, who at the time were not so well acquainted with suggestion as a source of error as we are to-day. Of course, all this does not prove that it is superintly for the magnet to influence human beings. Observeines supposes that there may possibly be a special magnetic sense, which may come into activity with many people thring hypocois, and which is, perimps, localised in some terminal organs whose functions are still unknown.

I have littleene discussed the influence of the magnet on human beings, and now norse. I have mentioned cases in which the magnet is said to have influenced human beings, and others in which human beings are said to have influenced the magnet and also steel. To make this surmany complete, I may further mention that there are said to be persons who can not only attract or raped the magnetic needle, but other bodies as well, even met as are made of wood. This at once leads us into the domain of sportism, whose adherents may be divided into two groups: (1) spirituals in the marrower sense, persons who trace all the supposed phenomena to spirits; (2) the animists or psychicians, who assume that a force which emanatus from the psyche of certain persons, the mediants,

is able to make objects move, and she like. Incomerable cases of this kind are to be found in the fiterature of the subject. But I have never seen anything of the sort happen when the strictest conditions were enforced. Everything that I have seen in this domain—e.g., in the case or Europia Palladino, was undoubtedly the result of purely mechanical action, and, therefore, I can only deeply regret that a man of science. Her Lorentzeen should have let himself by virtualized by the

frauds which such persons perpetrate:

The following was recently told me of a medium in Berlin, a youth of sixteen, who is supposed to gousess special magnetic powers:-- Objects bring on to his firgers when he has mugneticed them; sticks and other objects neutain in an oblique position in spite of gravity, because of his magnetism. I was allowed to take this medium is hand, and the results were very different. It is quite true that plates and ash may study to his fingers, and that sucks apparently disoboved the laws of gravity. But nothing of the kind happened when I took the procesution of discising the young man in a long cost and covering the objects with a cloth so as to cut of all connection with them. The medium certainly stated he was not accest toned to that seet of thing, and that his magnetism did not suffice to overcome such obstacles. But the magnetiser was enable to nestain his explanation when I produced the string that ran from the leg of one of his stockings to the other. He admitted the fraud, and it was the first time he had been cought, and left our "circle."

The phenomena of supersential thought transference, inggration method, or, as Majorhofer fittingly calls is, telesthesis,
are closely related to animal magnetism. Telepathy means
the transference of thoughts, feelings, resonations, etc., from a
person A as a person B, by some means other than the
secognized errar perceptions of B. (Consequently such thoughtreading is excluded in which, as described on page 62, new
person givesses the thiotoght of another by means of the fremens
in his unsoches—12, by a recognized hind of perception). B,
in to feel A.'s serms-perceptions; if A is privised B feels it; if
A trates saft, B testes it. It is also said that A can make B,
act, merely by concentrating his thoughts on what B, is to do.
Others think that it is the concentration of A will be R,
which causes the action. Percentile even maintains that it is
possible to inflatnice the pulse and cause transcotor stanges.

selepathically by an effort of will. Numerous experiments have been made in this way—for sistance, in guessing numbers. The agest A concentrates his thoughts on a number which the subject II, is to find out. In many class the number is written down and A gaves at it, concentrating his thoughts the while. Or the same sort of thing is done with earth. A picks out any card he chooses, looks at it carriestly, and B, then has to name it. A further series of experiments deals with more needs. A makes a unovenion, or thinks of one which II, is to carry out. Telepathic experiments are also very frequently made with drawings. A makes a drawing, or concentrates his thoughts on a particular one, such, for intrance, as of a riscle, a square, or a human being, and B then has to execute a drawing of the same.

In many of the experiments to thought transference the passive party—i.e., the recipient—was first of all hyposticod, as this is supposed to make the transference enter. But experiments have also been under when both persons were quite asuke, by Guthrie, for example. Sometimes, also, both were hyposticed. We can understand that the secipient being in hyposis largely increases the number of successes, because a hypostic has a much greater tendency to pay attention to the smallest sign made by the experimenter, than a person who is awake has. But it is just in this that one of the chief samees of error lies, because what in stality depends on the influence produced by such leadgriftcant signs is very often taken to lie the result of telepathic influence.

Telepathy is to an extent connected with animal magnetism, some magnetizers seeing in it a proof of the existence of animal magnetism. But there is still another connection between the two, to which Octorowicz, in particular, has drawn attention. The memberising of B, who has to find out the thought, by A, who transfers it, is said to have a successful result exacutable, and more particularly when B falls into a magnetic sleep.

This is bounded, though perhaps comewhat dentically, described in Parkendo, Legong, 1847—17 Von house from the writings of Gracille, Wheelash, and Kinge, that when a magnetizer gate pepper or sail in his month, bit classoquate makes a grimane, but given agan of particular when he driving good womer farther, that when he pricks himself, the fools it in the same part of her lody; when he has classificen, the gets six stack of it. Why, there is even the case of the budy, who, although only in mitted rapper with his married dater, felt a signation in her niegdes when her placed was multileg her child." Facilably for the purpose of making the whole subject appear ridiculum, the number of the number further makes that to also practical magnetise or a well-behaved young girl for a considewide line. She was commediately structure, and so was let. Yet, when he kined his with his claiming onto felt the Lines morgatically, and, finally, when his sole was confined, the got saffered from severe paint became he had put the two women on support. Conversely, it is tometimes asserted that the magnetiser's magnetism residers him clairrogand in respect to disease in affects, or makes him feel the claimes himself. He then feels the pain to the same plane as the patient, without the latter telling him where. In the law case which has already been mentioned. the magnetiese declared, for instance, that when a parkett was suffering from Ince termide, he, the targestiers, also felt pains in his liver, upon which a specialist asked him whereabours he would feel the pain when he was trying to diagnose the saw of a woman suffering book a disease of the worsh. It is always a very good thing to consider what the consequences of my personals assumption may be; the, when the consequences are short, one's district to the accuracy of the manufactor is, of count, particularly itsengthenid.

The transference of thought is usually said to be brought about by A. firmly concentrating his mind on the thought to be transferred. The nearer A. is to B the better, but the phenomena are also said to have been observed when subject and agent were separated by several kilométres. It is said to be even possible to hypnotise certain people at genat distances by concentration of thought; such experiments are said to have successful at Haven.

The supposed revelations of dying people are also obenreferred to some such action at a distance. It is reported that dying people, at the moment of death, or just before it, appear to some near relative or friend who is the away. Adherents of telepathy refer this to some such mental action at a distance being facilitated by the dying person's intense thoughts of loved uses who are away from him. The English Society for Psychical Research has studied this domain thoroughly. The Society made an inquiry as to the frequency of hallucinations in the waking state (the appearance of some particular person), and also, in a second question, mixed whether the waking hallucliration corresponded in point of time with the death of the person who appeared in the vision The English investigators undervoured to meet the objection that the events of a waking hallscination are entirely independent of the visible processes accompanying death, by comparing

the numerical results provided by the answers to the two questions, so as to ascertise the probability of the waking hallutination coinciding with she death of the person supposed to be seen in the vision. The inquiry showed that the number was much too small to admit of any coincidence being

destrooms.

Parish, however, has criticized all the available material, and thinks that all the results admit of a different explanation. The first thing to be considered is netroactive hallsciration. As soon as the news of a doub is communicated to a person, he thinks he has had a vision of the event. But the second objection, the adaptability of the memory, is much more important. Supposing a person has a hallurinatory perception of an event at the time of its occurrence, his memory will later on retain the hallociration in though it were the secollection of something really experienced. A third objection is raised by Parish-he thinks that there is no question of waking hally leations, but that we have, rather, in many cases to deal with the phonomena of a dream-state in which the memory is much less eleir. Finally, he opines that the waking hallpeins. tions are assortiones called up by cocumutances which have nothing whatever to do with the death of a person who is far There might have been factors which led to the hallacination in some way or other. It is often very difficult to discover how the ballacination carrie about. But it extremely dangerous to assume straightway that such an event as a death at a distance is a cause, instead of proving that no other contributory causes have been at work,

I have just explained that Parish has criticized the apontaneous occurrence of the perception of things distant, as far as the large amount of nuterial at his disposal permitted. Against this criticism, we can heally oppose the reports that occasionally reach as of eases which tell in favour of such action as a distance, and is which not only dying persons are concerned but other important events, such as serious injuries, as well. The only cases demanding earnest consideration are those in which the person concerned has written down the sature of the phenomenon. In such cases these would be no question of delusion or adaptation of memory. Still, the last of the sources of error mentioned by Parish would have to be considered. Isolated tasse of this kind, in which all that havened was put down in writing at the time, have been

reported to me. Thus, a Mr. X. who lived in Asserica waste to me as follows: - "One day when I was half asleep, I seemed to see my father, who appeared rather 'abroated,' come round the comer of a house I did not know, and walk across the courtyard; I saw him slip on a large flat atome at the foot of the stack-pipe leading from the gatter attached to the roof, and he les there with the blood streaming from him over the stone," As X, recognized the accord face, he at once wester down all he had seen in his notebook, so as to be able to verify the day and hour later on. When he saw his relatives in Europe a year later and visited his parents' new home, he went into the courtpard, and "there I saw the stone exactly as I had soon it in my dream. I at ease called my mother, pointed out the stone, and told her what had happened. As it had been intended to keep the accident a secret from me, she asked who had told me about it. I told her what I knew, and showed her the entry in my notebook. The hour given in my note was perfectly correct-i.e., after making due allowance for W. longitude. On the day in question, my father had completed a large business transaction for a capitalist, and the latter had passed the bottle feeely, making my father drink more wine than he wanted to." The man who told me this thought his father had nover been drank on any other occasion. He did not think the coincidence accidental. In upins of thin detailed communication-I have received others of a similar nature-I must add that in this case, particularly, the fourth of the sources of error mentioned by Parish is not excluded. At all events, any one who does not wish to be lost in a mane of miracles, must carefully consider these sources of error when dealing with each statements as are occasionally made.

As we see, the cases of thought-transference that have been observed fall into two groups—the spontaneous, which I have just noticed, and the experimental, which I mestioned fint of all. Those produced experimentally do not call for any serious criticism. All that Du Peel, Menai, Welsch, and many others have published on this hardly ecquirus even moderate criticism. Among those who wouch for the reality of telepathy I mention Charles Richet, Ochorowicz, Pierre Janet, Gibert, F. Myers, A. Myers, Gumey, Lombroso, Bischoll, Guthris, Reden, Gladon, Schrenck-Notzing. I had an opportunity of being powers at Mrs. Sidgwick's very next experiments at Beighton. Two persons were in the hypnotic condition, and one had to

indicate a number thought of by the other. The proportion of correct answers was extremely large. As, however, the two persons experimented on, though reparated by a felding screen, were conclusive. Mrs. Sidgwick admitted the justice of this criticism. Also the experiments made by the other persons I have mentioned do not stand scrious criticism. My own experiments, especially those I made some years ago in conjunction with Max Densoir, only gave negative results when the reconstry precautions were taken. Still, I agree with Lorsenfeld that we cannot deny the possibility of their being such a thing as telepathy, or at least the possibility of their being ways of influencing others about which we know nothing in the persont day. But up to the persont no proof of this has been

forthcoming.

I intend, in conclusion, to give all the sources of error to which occulties is Eable, in a connected form, but here I will just mention a principal source of error in connection with thought reading, which is not invariably properly considered, to wit, involuntary unconscious or subconscious signals, discussed thought-reading on page 63, where I mentioned that spendiant concentration of the thoughts on an object or a place causes muscular contractions that guide the subject to the place where the object is. In way case, it is a fact that steadfast concentration of thought sets up involuntary, and for the most part unconscious movements, that are often so sight that they can only be detected by means of very for instruments, as, for example, Preyer, Richet, and Sommer have stated. These very slight movements are often tactually perceptible without being viable. It also frequently happens that certain persons can see them while others carnot. A certain amount of practice, perhaps also a special capacity, enables some persons to perceive signs that are so slight that others overlook them. This is particularly the case with hypnotics; their whole attention is so fixed-possibly sub-consciously on these ugas, that they are able to perceive was of the existence of which the spectators have no notion. The signs can be made in ways that differ very considerably, One is inclined to look at an object which one is thinking of steadingly. Any one who has drawn a card and looks at it hard, is inclined to make some corresponding movement with his lips. Stricker mentioned in his work, Do to Parole of the

Sens intifragars, an articulative faiths of few perophible que many to reconstruct par of haddeneds. It is from such movements that A, provided he has had practice, can sometimes goess the card that has been drawn, because, for example, B, who has drawn the quoen of spades moves his lips at though he were going to say queen of spades. The subject sometimes even whispers gently, as Lehmann and Hamen have pointed out. Similarly, adequate movements are also made with other parts of the body. When anybody thinks steadfastly of a number he is inclined to make the necessary movements with his fingers for writing down that number. I mentioned when dealing with thought reading that other numbers occurionally participate in each movements. The whole body is impelled towards the object of which the person is thinking (Turchasoff).

Sometimes the signals gives are somewhat different. We may observe in eases of thought-reading, that when the reader is taking a wrong direction the person who is concentrating his thoughts, or often some one clos who is present, will involuntarily give a sign that at once tells the practised thought-reader that he is on the wrong tack. A loud beauti, for example, will do this. A rapid and districtly audible impiration will very often tell the thought-reader that he is unaking a mistake. Also, two Italian nathors, Guiceiandi and Ferrani, have, as Goey informs an ascribed an important part to changes in negatiation during experiments in thought-transference. In other cases some rougher movement of the body is noticed by the thought-ender if his eyes are not handaged; but it may quite well be suddile.

In any case, the movements just described guide the thought-ender in the right direction, and this may, indeed, occur even when he is not touching the person who is concentrating his thoughts. Now, as a rule the thought-reader generally has his eyes bandaged. As we saw on page 61, it is not necessary that the thought-reader should be able to see when he is in direct contact with the subject, be cause such direct contact enables him to feel the movements that are made. But, times the involuntary movement just described are also and ble, we can understand that the thought-reader can solve the problem that is not in direct contact with the subject experimented on. Now, as a matter of fact, a whole series of cases has occurred in which thought-reading

was accomplished although the reader's eyes more handaged and he was not in contact with the subject. Consequently, such a case is not necessarily an instance of telepathy, although ancritical experimenters would probably meribe it thereto. It is very much like the game of hide-and-seek which most of my resultra probably played when they were children. Our of a sumber of children is best to a distance while the others hide something. The child sent away is then recalled and told to and the hidden object; to long as the child it far off the object it is looking for the others cry out, "coid," when it gets nearer, "warm," and when quite close to it, "her." Just in the same way the thought-render, oven when his eyes are handaged and he is not in contact with the person experimented on, finds out whether he is performing his tank correctly av not. He can tell from the right and changes in the respiration of his audience, and also from other ugus, whether he is going in the right direction or not.

It is possible that with certain people tacteal semibility plays a special part-or least in some of the cases. It sometimes happens that the thought-reader finds himself quite close. to the person who is concentrating his thoughts, and that the latter stretches out his hand while the thought-ender's is close to his hard or arm. Now, supposing the subject makes some movement with his hand or whole body in the direction of the object to be discovered-it is easy enough to show that such movements may be considerable—and supposing the thoughtreader possesses a very fine sense of temperature, then we can mailly understand that the thought reader's hand should tell him the direction in which the movements gos being made. The amount of resistance offered by the air may also have something to do with this. There are persons who are quite able to perceive in the dark whether they are near a wall or my other solid selutance. The resistance of the air to movements is different near a wall to what it is in the middle of a room (of p. 59). Consequently, it is possible for the thought-sender to tell from the maintance of the air the direction in which the subject's hand is moving, and this fact helps him in solve the problem that has been set him. Nevertheless, a is probable that less weight should be laid on this circumstance than on perception by means of the sense of hearing.

Lively discussions have recently taken place as to whether the blind possess a special sense or not. One author, Ludwig Cohn, who is himself blind, has asserted that such is the case; while Brandstacter, an instructor of the blind, has denied its existence. A special point that has been raised in this discussion is how it comes about that the blind are quite able to orientate, or take their bearings as to the position of things about them, either in a sport or in the greet; they can even distinguish whether they are closs to a wall or not. Some ascribe this to the sensation produced by the pressure of the stmosubere, which differs when the surrounding space is clear from what it would be in the proximity of a wall. At all events, the seasibility may be so delicate that a blind person shut in a room can tell the size of it or the position of the furnitum in it without touching anything. Opinions differ as to whether normal individuals can accomplish as much, Important authorities, Zell and Hauptvogel, for example, bare answered this question in the affirmative. We will certainly take this source of error into consideration in all cases of telepathy and also of elaivogance.

Benear's supposation that delicacy of the sense of smell is of importance in thought centing seems to me made than publishmetrial. Wernicke, who is a very objective accordingtion, has expressed a smaller size in Beneal's, but with all inserve. He thinks that concentration is the will, coupled with a sheety expectation that the experiment will numeral, as a depositing that it will fail, may, so to speak bring about a change in the atmosphere automating the hypothine and threely are indirectly on the subject's extremely delicate sense of smell. Consequently, is might be possible for the subject to detect from some change in the unmarion of smell the threeton is which the experimentar's will in working, set in accordingly. We relate therefore proposed that superiments thould be made with experimentar and subject asparated by a place-plate so so in accide the possibility of the sense of smell being affected.

I have discussed these sources of error in some detail, because their importance is so frequently undersated. At all events, let us firmly bear in mind that the possibility of recognised sense impressions leading to the correct solution of a problem is far greater than superficial observation would lead us to imagine. Thus, some persons think that when the subject is blindfolded and is not in contact with the experimenter, supersensed thought transference takes place, whereas, as I have just explained, there are numerous other sources of perception besides whispering. Consequently, it would be very rash to constrain that such experiments establish the

existence of supersemnal thought-transference, or that the latter in any way supports the theory of animal magnetism.

It is also on these governeds that I have already mentioned that Scheibber could not prove the continue of animal magneties. Here Scheibber pretended he could do so by means of thought-transference. The experiments were corried out as in ordering thought-transference. But only was Scheibber bindiated, but he was also not allowed to book the only was scheiber bindiated, but he was also not allowed to book the only was experimented us. Scheibber left the room, and it was arranged during his above, what he was in 60—for arrangle, to fatch a book from the lable and put it on a clair. Scheibber was they brought in hindiateded, and he friend A. was tried to think secuciously of the allowed task. Scheibber fill not touch A., but the latter's hand was quite clase to him. As it traved out, Scheibber certainty did sometimes perform the trak set him correctly, though, as a raise, only after some failures.

Carefully conducted centrolling experiments showed that the national ware not doe to my magnetic or enknown power. Discrip Schrider was small in west gloves, and had his considerant well as his eyes bandaged, the experiments failed. From this it follows, at all a recent, thus the experiments failed. From this it follows, at all arms to the promises were excluded. I think it probable that another impendious were excluded. I think it probable that another impendious were excluded. I think it probable that another impressions were responsible for the successful case. Any use who has the oppositionly for making to useing each experiments, and who as the same time carefully watches the operations, will be anothered to find how distinct and lead the make assessment as the same time carefully watches the operations, will be anothered to find how distinct and lead the

I have here intentionally discussed but one source of error in telepathy; I shall come so the others later on. I will only further remark, that the exclusion of our source of error alone is never sufficient. On the contrary, all sources of error must be excluded if we are to arrive at an unimpeachable conclusion.

I now come to clairvoyance, which is the perception of things distant in since or space. In the former, forthcoming events are foretold, or past ones, about which the clairroyant could have learned nothing by normal means, recented; in the latter, things are seen which are so placed in space as to be invisible—(x, they are either separated from the clairvoyant by some non-transparent substance, or they are too far off to be seen. The semmambulic state induced by magneticing is

<sup>&</sup>lt;sup>3</sup> The suggestic mater in which such phenomens as claber-pance, thoughttransference, etc., come, are questably called menomials by extensions. Consequently the word nonemodulis in used to several states; z. One of Chartoc's single in often called constantiable (s), p. Set; z. The Nancyothers calls that state nonemodulis is which there is law of memory after walled; z. Same identify hyportom with a memoritaria; z. Somewhallis is after it which there are actions and movements in 1841; z. The mannesse state described above is called seminabilis.

said to favour clairyoyance. For a long time clairyoyant someonibulia was a special profession, and is so to the present many towns. The helter in clairvoyance goes back as far as history; I need only refer to the Bible and the Greek Oracles. It seems that the state of the Pythia was file a hypnesis, although took methods were probably also used. Klage, Ed. you Hartmann, and others, think that the state was surrounbulls. It was the same thing with the Siled of Comm. Other phenomena of antiquity must also be included here-for example, the reports of Apulcius about the prophenying of boys; as well as musty phenomena reported in recent times from various countries. Stecker tells in that in the camp of King John of Abyssima, 1882, a buy or an apparently apentambulic condition was employed to discover a third

60. p. 34.

When united tragnetism blossomed forth at the end of the eighteenth century, clairvoyance became more and more associated with it. It is not certain whether Meuner himself believed in clairspyance; list it would appear from one of his letters, published by Du Potet, that he did, but did not go deeply into the question. The numerous scientific commissions which have investigated clairyoyance have failed to establish the occurrence of the phenomena. Nevertheless, many people had a listing belief in it, especially philosophers - Schopenhauer, for instance. Even Braid, about whose views there are so many mintaken opiniona, believed in clairvojunce, at all events at first. There is a passage is his Newsymather (p. 12). which I can interpret in no other way. Braid thought clairvoyance proved, though he had never some it and could not induce it himself; but he thought that a number of those who youthed for its reality were scientific and truth-loving enough to be believed.

Gilles de la Tourette has given a number of details concerning the treatment of the side through the agency of Paristan nominambalists in his work on the foremic importance of hypnotism. However, it is not to be imagined that such things only occur in Paris. Hirschlaff tells of a magnetopath in Ecries, who employed a someombolist, and I have not the lenst doubt that the same thing is done in many other German towns. A Baymus medical official, Wetsler, who thought he was suffering from thermation, treated himself with medicipes ordered by a commambalist. A man named Jost, who find

formerly been a unito, while in a state of assumed hyperonis prescribed cures for hundreds of sick people. On the buttimony of the medical expert, Fürstner, he was tried and condensed

for fraud and simulated hypnosis.

Sommambulists are, moreover, also made use of to disgresse their own disease, predict its course, and indicate the recessary numerics. When a nonmambolist describes the appearance of his nen internal organs, he usually does so in such vague, general terms, that his statements are not worth the trouble it would take one to substantiate or disprove them. But the foretold omet of morbid symptoms occurs with extreme princtuality. I remember being called to a lady who oben spillered from attacks of bysteria. When I wanted her, she declared that a voice had told her that the last attack would occur the following night. A colleague and I advised her to refrain from taking may further measures to combat the attacks, on the prophecy would possibly be fulfilled; and it was. The most intural explanation-and one based on our present-day knowledge-is, that the patient cannot the onset or cessation of certain morbid symptoms by auto-aggrestian, in consequence of which the prophery proved correct. Here there are, perhaps, other circumstances to be taken into consideration as well. F. Myers pointed out the importance of the secondary ive. He thought that the latter obviously passessed a profound knowledge of the organism, and could consequently make a turne reliable diagnosis than the primary see. He also shought than auto-suggestion would account for the prediction of the course of a disease; indeed, he even considered that death might be camed by anno-suggestion, the patient becoming so amions and depressed from the auto-suggestion of approaching death as to came his sitality to fall gradually. But in his opinion real cognition of the secondary 470 was of far greater importance. We know of something analogous in dreams. As far back as 1856, Liebcaelt pointed out that many monted symptoms give suming of their approach in dreams. I will goe a few imtances of this from my own practice. A lady dreamed the was suffering from severe toothache. In the daytime also was free from pain, and nothing could be discovered the matter with her teeth. A few days later one of her teeth was found to be diseased. Again, a gentleman of my acquaintance frequently complained of domes in which he suffered from pains on the right side of his chest. On one occasion has

dearmed he was fighting with burgiars, one of whom struck him on the chest with a hammer. During the period he also decamed of inflammation of the lungs. A good many days later he had symptoms of inflammation of the please on the

right side. Relief has reported similar cases.

Those diagnosis which are made from objects belonging to sick persons or, more especially, from their hair, also belong to the domain of clairvoyance. Many years ago, in conjunction with Max Dessoir, I made a whole series of experiments with a woman who at the time had a great reputation in Harlin for making such diagnoses by means of patients' hair. The investigation proved a complete failure. Not core single disease was correctly diagnosed, and the number of cases in which such details as age, sea, etc., were correctly given did not exceed the numerical value of the probability of chance success. I have given the results of these experiments in my work, Uter ten Ropport in der Hypnese. In a number of other cases in which I succeeded in getting to the hottom of the matter the diagnosis invariably turned out to be incorrect. A Datch woman also, who was said to be able to diagnose diseases from patients' hair, made a weeng diagnosis in a case that was carefully controlled. I observed the same thing in the case of a man in Germany, who had a reputation for diagnosing diseases from objects belonging to patients. He also failed utterly in his attempts.

There are various sources of error to be reckaned with where each diagnoses are concerned. In the first place there are vague diagnoses, such as networstees, a weak stomach, headache at times, occasional sleeplessness, that would apply to any number of cases. In addition to this, the diagnosis often includes a number of morbid symptoms-1 came across one in which nearly a dozen were given, such as headache, weakness, bad digestion, weak kidneys, escitability, weakness of the storrach, etc.-some one or other of which would most probably be present. Most people, but more especially uncritical individuals and marvel morgers—and these form the bulk of the people who comult charvoyantes—are much more impressed by one success than by many billutes. Any one who knows how to enticine can cornect these errors, but not up a person in whom that faculty is warting. Consequently, even when the clairsoyante is only right as to one of ten symptoms that she less discribed, but is wrong as to the other sine, many people

think that on the whole the case is a proof of clairvoyance. Another important point is, that as a rule such parants subsequently ponder long over the question whether they did not at some time suffer from one or other of the complaints mentioned to them; and with a little reflection any one complaining of sleeplessness will soon discover that they once suffered from some gastric affection. Finally, seach is straightway accepted as true without any investigation. For example, suppose a woman who is suffering from pains in her back is told by a clairvoyante that she has a uterine complaint, she will take the assertion for an established fact, and when > doctor tells her later on that her warnly is perfectly healthy, she will in all probability pet her trust in the clairvoyante. Many of the diagnoses made by clairs openes are of such a nature that it is almost impossible to submit them to revision. Thus, stagnation of the blood, impurity of the lymph, etc., play an important part in such diagnoses. At all events, I have gone through the literature of the subject excelelly, but nowhere have I found a series of experiments that would tear criticism, and would prove that a number of correct diagnoses had been made by means of chircogance in excess of the numerical value of the probability of chance SECONDELL.

Moreover, I have never obtained a positive result in my other experiments in clairvoyance, although my investigations were frequently made with that object, especially during the natiler years of my researches. When the ordinary sources of error-I shall deal with these together later on-were avoided, the experiments pave none but negative results. As a tule, so little mention is made of scientific conditions in the reports other authors have published of the positive results they say they have obtained, that we cannot consider such reports proofs of the assertions they contain. Or caroful investigation shows that the results have been artfully interpreted, and we know that by the exercise of a little ingensity anything can be proved. In any case, areful interpretation, chance, fraud, signs made by spectators, and similar sources of error, play such an impersent pars in the reports huberto made, that at present we are perfectly justified in considering clairsopance a product of hand and self-delusion. Clairsopants who cause such a senantion among the "hithful," hardly over submit to scientific investigation.

We must have include, for example, the "sources" Fear Fertica, of therein. I was includ to experiment with her in November 1904, and I at more expressed my readiness to do so under scientific espelitions. I find hardly amopted the uses when I received the following communication :-"The armon is but the present presented from placing familif at your disposal, but I have no doubt that the will do so later on." At the same time as invitation to the access's letters was promised us; but the promise was not listified. As the sources had been alters for wave their a year, I seminded her in December 1905 of her momin, and I received the following reply: -- " Unfurtumely, the second is at present still weakle to be at your saydos. In nonsequence of the protencied filters of one of the correbors of her family, her head to, in a manner, full of truthle whath prevents her bringing the precising internat to bear on the experiments in a prevent, "I was premised a forther recommunication in a few months, but I have never sectived it. Chairmoganter and their followers behave in easily the same way as special medicals; they promise to authorit to be experimented on under strict conditions; but when it comes to INC Physics, he sails, a convenient attack of oxigouise acts in, or were

member of the family mosts with an secident, and as family

Another Dette conveyants also must a retreat at the very moment in which the toight to have proved her powers. This was the mor of a lady who was a quantity of a very religious dispusition, and who was supposed to be oble to see forms to clearly in reason that the could at once from them and then write down a description of them in her disty. It turned our that the hidy insurtifies met the person who had appeared to her ou the same day or shortly after. Her drawings and descriptions were enough we accounts that her hashard could ut once recognize the parasis from them. One night I went to a lecture at which I was as more than lady. After the locates was over I was introduced to her, and directly the beard my name the Josticed that the had known that morning that the would meet me in the evening. Also she had written a description of my personal appearance in her timy. I logged her to allow sto at large a look at her diarg, and she promised to do so. But when we (the ferrors and I) asked her to let as frire home with her at once-protestion appeared necessary in the interest of traffs-the help first of all explained that her house was some way of, and when we penicted in our request her confidence alarted constrainty and the gradually admitted that although the had now me quite distinctly in a vision, on this occasion the had me written from asything about it. It is alwinus that finisheation of memory and a habit of contacting played an antracedinarily great part in this lady's case.

The following case shows how easily simple things may be ministerproted and expanded into semething wonderful, how easily a perfectly straightforward process may be turned into an act of clairveyance, and on the other hand how simply this can be explained. One thy a married woman was missed from a village in North Germany. About three days later her som said he had dreamed that his mether had been mardered at a spot lying between the rillages A, and B. The boy mentioned his dream to several people, who related it further. A search

was made for the body, and it was found at a short distance from the high road running from A. to IE-Co., where the boy had sees it in his dream. The authorities who were conducting the investigation now sent to tell my the facts of the case and to ask my advice, particularly with respect to the hoy's dream. The official who called on mo, captained in a very matter of fact way that the authorities considered the affair incredible and very remarkable. As they wished their investigations to be as complete as possible, they were majous to have the athrice of an expert, and therefore sem to me for my opinion. The details of the case that came out were extremely interesting. In the first place, it was discovered that the boy had given different accounts of his dream. Thus, he said he had also seen the murderers in his dream, but the description he gave of them, even as to their number, worled at each recital. He also gave different versions of the way in which his mother was murdered, and the only thing he adhesed to was, that in a dream he had seen his mother mundered at a spot between the places A. and R. But this siddle admitted of a very simple solution: the day before he had the dream, the boy had beard people my that the woman could only have been mardered between A. and B. The investigation, therefore, proved conclusively that it was known that people were on their was to look for the body between A. and II, the day before he had the dream. All the other details of the dream proved false, and the boy gave a contradictory account of them in each successive statement. In spite of this, the story was at smoot spread about that the boy had had the power of claimovance in his dream, and the authorities ought to follow the matter up in the direction indicated. It is an old experience that, if one animportant point in an event fits into a prophecy, people who have a mania for the mineculous straightway take everything else to be correct, and that, too, without making any investigation whatever. So it was in this case. At all events, the whole miracle was reduced to the following simple fact: the boy had had a dream in which he had dreamed of something he had heard the previous day. All the rest was due to imagination.

Transposition of the senses beam a certain amount of seasublance to clair-counte. In it, simuli, which accusally would only affect a particular organ of sense, affect some other part of the body. For example, letters are said to be read by

means of the skin instead of the eyes, without any heightening of the sense of touch such as is found in the blind. On the contrary, the part of the skin concerned is supposed to be stimulated by the light cays, even without direct contact. One of the most commonly mentioned phenomena is reading with the pit of the stomach, or hearing with the stomach. In Paris, I saw a momen who was supposed to read with the laberal cartilages of her nose, even at a distance of several fact. But when those parts were covered with washing the experiment failed. It is tolerably certain that she saw with her eyes; for though they appeared to be covered with washing and bandaged, Braid has pointed out that such bandaging is of stry little use.

I will here mention time experiments of Heidenhain's which are generally misunderstood, and which at any rate may be easily misunderstood. Herdenhain misintained that his hypositized intents repeated whatever he stid to them when a intention was applied to their intentals; it was necessary to speak alone to the stemath to attandate it. According to him the sugar serve was set whething, and the planetic sound-convents attandated, and thus a mind was made which corresponded to the loss briefly but he thought the senad was beard by the car and too by the stomach, the nerves of which nearly simulated the sound-centre and that instructed institution at what was beard by the sat. It might be constituted been many accounts that Heidenhain thought his adjects beard with their stomachs, her mething was fastler from his thoughts. I have alonely mentioned on page 56 that Heidenhain was wrong in many of his other sometimed on page 56 that Heidenhain was wrong in many of his other sometimed on page 56 that Heidenhain to the fact that he ignored psychological factors, and was dominated by the fract to explain encrything be roald by menns of some physiological diagram.

The law of the individual capacity of the sense-organs would be violated by maniposition of the senses. According to this law such organ of sense has in own specific stimulus, which has no effect on any other organ—e.g., the eye is stimulated by light, but not the sense of touch, or the stomach. Of course, the fact that transposition of the senses would be a violation of the above-neutrioned law sioes not justify our denying that such transposition has ever occurred; here also we must demand proof-positive of its occurrence. Of all the immunerable cases that have been reported, I do not know a ringle one in which the various sources of error were satisfactority excluded. Here again, the trilling signals which are given by spectators, and which act as a guide, constitute the chief source of error.

I now come to the action of drugs at a distance. At the pertent moment this is generally supposed to be disproved, though some authors call assert it. It would not be supprising if the number of its adherents were to increase. And certainly the belief in the divining-rod, which has recently gained fresh supporters, can only be considered an analogous phenomenon.

For, the divining red also implies action at a distance, in this case that of water or metals, on certain persons. Formerly, the divining-rod was often used for the purpose of finding springs or vrim of metal, whereas in the present day the possibility of at least discovering springs by means of it is still believed in by a few trustworthy people. Heim and Francius, in particular, have expressed their belief in the efficacy of the divining rod, and many others-e.c., the district councillors v. Bullow-Bothkamp and v. Uslar-are active water-finders. Heira is very cautious in his statements, and considers the scientific geologist a better water-finder than the man with the divining-rod. Nevertheless, he believes that there are persons who can detect the presence of water hidden deep beneath the earth's surface, and he thinks that their success depends upon either a psychological or a physiological process. In his opinion, the divining-rod is murely a sletail. It is the movements and alight contractions or twitchings of the diviner's muscles that are all important—the rod merely acts as a lever of contact, and its movements are due to the movements of the fingers and hand caused by the elight muscular contractions just mentioned. The reason why the excursions of the distal and of the red are greater, and therefore more readily perceived than those of the fingers, is to be found in its greater length. According to Heins, the process may be a psychological one, the diviner's knowledge of the servain leading to the idea of the presence of water directly he comes to stand on ground under strich it is lying. This idea would then cause involuntary muscular movement as in thought-reading, and the red would sway in consequence. He certainly thinks that the process is purely physiological in other cases. He believes that shere are persons upon whom the proximity of water acts as an excitant and produces a kind of tremor, the presence of which may be evinced by the and reasing; but in this case, also, the rod in only of secondary importance.

Although at the present time some people express their appreciation of the divining cod, others are strongly opposed to it. Wolf and Weber, for example, have pointed out the number of failures connected with its me. In any case, n is a fact that exact proof of its efficary has not set been brought forward. At least, no one has hitherto shown that the number of successes obtained exceeds the prolinbility of chance success. Even Heim's work in this connection is not convening. He quotes almost entirely from memory, and affinite that he did not make notes systematically, because at first he attached too little importance to the question. This is a pity, and compela us to receive his statements with reserve, became experience shows that positive results are much better retained by the memory than negative ones. Communently, although Heim only estimates the number of successes at 10 per rant, we are compelled to ask whether this percentage is not much too high, and also whether the regults might not equally as well be attributed to chance and falsification of memory as to the action of the divining-end. In addition to this, we have also to comider the possibility of intentional fraud. Heim himself relates, that is sometimes happens that a person whose knowledge of the ground enables him to detect the presence of water will use the divining-rod, because of the greater impression thereby produced. In any case, I do not think that Heim paid sofficient attention to these sources of error, especially those arising from fabrification of memory. Here, also, objective inenstigation is the only correct method of procedure; neither a prove negation nor mentical assent in iuntifiable.

As I have already mentioned, the divining-rod was formerly used to find seins of metal, just as it is nowadays to find water. It has long been supposed that some metals have an influence on certain persons, and the assumption has been made use of his medicine. We must here include Burg's metalloscopy and metallotherapy, in which, however, there was contact with the metals. Certain persons were supposed to be influenced by purcicular metals—copper, for example—which even carned symptoms of disease to disappear. Such assertions were made long ago. Brandis, for example, observed pain and consultation

result from contact with gold and silver.

The later investigations on the action of drugs at a distance apparently proved that certain drugs in betweetcally closed tubes would, when brought close to human beings, act in the same way as if they were administered internally. Thus,

stryclining was approved to cause convulsions, speciecanha

voniting, opinm sleep, alcohol drunkenness.

Experiments of this kind were also made even earlier. In the eighteenth century Pivati of Ventor asserted that if odocous substances were shot up in glass takes, the fragiance would prostone the glass and earst a specific influence on human schipers as soon as the toles were rendered electric by friction. Versh and Bianchi found this correct, and so did Winkler, professor of philosophy at Leipnig. As a result, such tubes were much used at Leipnig for the treatment of disease during the middle of the eighteenth century. There were anti-apoplectic tubes, anti-hystorical tubes, etc. Alubi Nollet then went to Italy to investigate the matter, but he was unable to confirm the phenomena. He found that the statements that had been made were the autoone of inaquarate observation, reggeration, and found. Bianchini, professor of medicine at

Padua, came to the same conclusion (Lightenberg).

Similar experiments were more recently made by Grocco in Jinly, and Bourns and Barot in Rockefort. They experimented with both waking and hypnotized subjects; Luys and Dafour repeated the experiments with hypnoticed subjects, and confirmed them; so did Duplouy, Alliot, and Feter. The lastnamed even assested, on the strength of experiments he had ramed out on one subject with Caron and Martinet, that contact with gold would produce a burn of the second degree. without the subject knowing what had touched him. So far as can be seen, the experiment was not very carefully carried out. Lays went farther; he even found distinctions, according as the specarumha was applied to the right or left side. These experiments have been repeated by many other investigatorseg, by Jules Voisin, Forel, Seguin, and Lauferance, without result; Lurs brought the subject before the French Academy of Medicine, which appointed a commission (Broundel, Duttedin-Beaumetz, and several others) or test the question in the presence of Luys; they carry to a conclusion opposed to his Seeligmiller also attacked Lays' experiments, and proved that the conditions were not sefficiently stringent; the Nancy school rame to the same conclusion. Suggestion and mining were shown to be the third sources of error. The subject's front suggestibility studies him to gather from the copenmenter's manner what is wanted of him. For this reason the Nancy school raised the objection that no experiments on the action of drags at a distance could be considered conclusive if may one acquainted with the contents of the taken were in the score. I am undergoarded with any sense of experiments in which these conditions were amonthy adhered to and the subject nevertheless calcibited the correct reaction.

In the preceding part of this chapter I have discussed questions that are usually included in the domain of occultion. I had already mentioned tome points in this connection in the previous chapter. Many believers in these occultitie plens-ners go much farther. This is particularly noticeable in their attitude towards spiritism, of which many occultists are followers even if they do not always admit the fact. Of course one may be a believer in animal magnetism, thought-reading, or even in spatial and previsional clairvoyance, without that accessarily making one a spiritist. Spiritism is the doctrine or belief that spirits, more especially those of the dead, appear to human beings under certain circumstances. The presence of certain persons, called medium, who are as intermediaries between the spirits and human beings, is said to be a preliminary condition. Sometimes the manifestations of the galaxy consist of raps which can be heard at different parts of the moon, on tables, chairs, the walls, etc., and by means of these mps the audience and the supposed spirits are often able to carry on a conversation; at other times, objects in the soon begin to move of their own accord-e.g., the familiare jumps about without any perceptible mechanical assistance. But the most important manifestation is the materialisation of spirits. The spirit manifests itself not memby by raps and the like, but its astral body appears-i.e., the body which under normal conditions constitutes the ethereal frame of the soul. It is may to understand that a person may believe in other occultistic phenomena without being a spiritist and tracing such phenomess to the spirits of the dead, and, as I have already mentioned, the mentalists are epposed to spiritism in the narrower serous of the torns. In spite of this, it cannot be denied that there is a connection between occultism and spiritism (in the rentiered sense). Spiritists readily admit that clairvoyance is a means of obtaining glimpies of the spiritworld which is hidden to the ways of luman beings in a normal state. Conversely, it is assurted that the only explanation of clairvoyance is that the spirits inform the medium of

the things to be seen. We generally observe that whoever believes in the phenomena of one domain of occultion—a.g., around magnetical stakes the phenomena of all the other domains for granted. This will not surprise any one who has watched apintion and occultists when close to them, more especially when they are Joining hands at some scance field by one of their "circles." It is the penuliss frame of mind of the participants that plays each an important part in such proceedings.

I have sever asserted that any one of the occultistic phenoment hitherto described in improvible. Although we have no right to my that a phenomenon is impossible, there is an immente difference between the recognition of a phenomenon contingent on its being observed when the necessary precustions are taken and the ancitical acceptance of all the

phenomena of occultism.

Of crume, we are bound to admit the renity of phenomena observed in experiments named out under the strictest conditions, and with the various sources of error excluded. But we must insist that these sources of error really are excluded. Laplace's remarks, nantioned on page 455, would apply here. He stated that neither animal magnetism nor the industre of an ordinary magnet, for the impression that may be produced by the proximity of metals or dowing water, was impossible. He was also perfectly correct in in statement that we have no right to say that these phenomena are impossible, because they are not observed in every case. Least of all should we dray their existence, because the srience of the day fails to explain them. And he added, that for this very remon, all the more eigilance should be exercised by those investigating such phenomena.

I have never observed anything of an occultume nature occur during my own experiments, provided the necessary procussions were taken. A favourite reply of occultists, and store especially spiritists, to this is that the experiments will not work in the presence of scepties, who dotted this harmony of the "circle," which is so necessary if successful penults are to be obtained. I can very well imagine that, if there really are any such subtle psychic processes, the construction of the environment is of importance. Fact if such pleasurest areast be achieved under microfic conditions, so pretone cloud it is under all primary their charit it is appeals.

arthined that the mobile question is a motor of belief, and every man in free to believe what he wishes. I must also man, that the longer and obtains I have devoted my energies to the investigation of occultion and spaintens, the more trave I become convenced that conscious fixed on the part of the mediums and their accomplices plays a far more important part than I formerly imagined. But I are also construced that many occultion and springer, even if they are not guilty of intentional fraud, neverthelms attempt to impede the investigation of the phenomena by mising bivolum objections and employing all the arts of exastion, and that they thereby facilitate the perpentation of transf.

I must to think that it was extremely wrong of men of science not to investigate spiritiatic phenomena, and I still maintain that it is far better to subject such matters to the test of scientific investigation than to leave them severely alone. But I must adone that we have no right to blame men of science. seriously in this respect, for it is hardly possible to obtain an opportunity for investigating the phenomena scientifically. As a rule, the so-called aroutific seances are merely cancarures of scientific investigation, and in nearly every case the whole after is nothing but a farce. Directly an attempt is made to proceed on scientific lines, the medium usually begins to weep and wait, or feels injured at being distrinted, and it is almost certain that some of the spectators will support and condoler with the poor, dear creature. Occulrists and spiritists are generally present at these seances; indeed, their presence is necessary for the "Harmony of the Circle" A scientific stance, at which Eurapia Palladino was the subject experimented on, was described to me by a person who was present. My informant told me that when he took a tight hold of Eusapia Palladino, so as to prevent her getting her hands free. the doctor who was directing this "scientific" meeting shouted to him that he must not grip so femly. In the case I sternioned above, in which I proved that the magnetism of the magnetizer was due to a string fastened to him, many of the andience were filled with pity for him and called out, "Good beavens, how tembly not it is !" directly I put a cloak near him to prevent him from using the string. Such are the methods employed to mulify scientific postantions. Tedeed, most mediums have no need to submit to scientific conditions.

they have enough teathful followers as it is. A therough-going medium is more spoiled than a first-class prime dense. A whiteper of doubt, and the medium stops the scance. That is what happened, for example, in the case of Mrs. Abbutt, the magnetic lady. I serviced above. I once attended a so-called test afance given by her, and directly it was proposed to take scientific premations also declared the proposition was an insult, and left the room. It was only at the earnest request of an anient spirital that she could be induced to return.

As Max Desseir very properly points out, orientale investigation should be commed to one simple phenomenon at a time. This phenomenon should be investigated under varying conditions, but the medium should never be allowed to prescribe the conditions. As long as such investigations are impossible or are declined, and as long as investigation continue to allow the mediums to prescribe the conditions—e.g., whether the more is to be darkened, or whether a screen is to be placed in front of the medium—we shall only be dealing with assertions

that cannot prove anything.

Schoenck-Notzing, also, would like to see mediamistic phenomena investigated. He strongly objects to the credulity, fanaticism, and lack of criticism displayed by the spirities: Like Lorder, he advocates the founding of a kind of psychological laboratory, with all the necessary equipment for carrying out experimental researches in every branch of psychology and psychiaphysics. Mechanical recording instruments through be used, so as to keep the results as free as possible from errors that might arise from delinions of the organs of sense. I also arres with Schrenck-Notning, that pursues who call themselves medium should not straightway be treated as impostors when under committion. There are some who do not intentionally decrease. With them it is a case of self-deception, either in or out of the auto-hypnoric state. Although I agree with Schrenck-Noting with regard to the methods of investigation, I cannot help blaming him for not larving taken his own very clear instructions sufficiently to heart.

The way in which he interested in the case of Muse. Magdelein G., the shapplanter, was calculated to make the public think there was something exceptivity about her problemance, and was very reperbounder. I am referring to his enjoutable masses that, in the first experiment, the effect of the music on the ammenballe lady was such, that the developed

a power of dissentic expression "The beyond the possibilities of the netw's set." Still more reprehensible was the way in which be finited this lody, whose performance contributed making new to stieper, upon at the supplicious performances in the possible, the way in which he stage managed the lady's performances in the presents of large militates was on trade to science, and such methods about he rigidly excluded from the laboratory of the psychologist. Considering the trick conditions make which Schweigh Schrieg would have the investigation of an familiaritie photonomia carried out, be ought to be preferably carried himself, and refrain from pulling the annutifically unimposture packetings of such a person at Magnifeliate G. in a matter which, according to Wille Hellpack, manifester.

a dewnight mishessenour

I must also blame Schrenels Notring for his combatt on a recent recession. In spire of his appeared protests that all such matters should be investigated make the might be conditions that almin in the laboratory, in proortheless. attempted to prevent the scientific examination of a moltum in Berlin a lew search ago. He had bested that vertain coupling Builts intentigation. whose names were given, had been invited to the stance of a medium. He stated that this was unfortunity and that the mosting ought to be prevented to it might before the lady's molimbility powers, which were will in the developmental stage. He said be was induced to take this step, became profession at the University of Munich, and noted measurepose, but declared that a propriar made to a mediamietic "circle" need not be kept, and that the only scientific way of getting at the testh is to each the planties and hold it fact. I am universe that Manch accounts have ever advocated perjury. It is hardly possible to find any other matter, as Schools. Normy ralls it, for his serios than his spiritatic implenees, of which he may, perhaps, by uncommission. In an earlier work, Schoencil-Morning attacked the experts who had pronounced against thought-transference, and he also experted the opinion that many of their assertions were due to if frier arenios, and were not based on experimental meants. "I are consinced this is the most unscientific way of getting sid of questionside proceedings. Consequently we are spared the mountally of salmitting such verificts to a searching criticism." Here we have Schoenck-Schoeng blanding the mon who do not experiment, and yet an other associates be Aber his best to hisder those who are willing to investigate the question experimentally. I very much doubt whether a man who departure arterelific attances-and it is only with such that we are concerned - has any right to set Named up as an objective investigator of mediumistic plantament. But all this can be exoly explained if we remember that Schomely-Nothing to an Economy number of the German Society of Spiritate; that in the very writte in which be advocates the investigation of merion teic photomera, he also indulges in a largelissity acceptful disputation or the "unexplained serialisms," and that he also proces as the character of Ecosyon Politicism and sensite persons. In reality, Schemek-Nebring is so cutargled in the mether of specience, that he his apparently had the power of observing and thinking objectively.

I have already on previous occasions referred to the numerous sources of error which we must not overlook in our impairy into occasionic experiments. These sources are to be found either in the person of the subject of the experiment, or in that of the experimenter or of some one class present.

Let us first deal with those contained in the person of the subject. The following important points have all to be taken

into consideration is

a. Intentional deception on the part of the subject with or without hypnosis. Simulation of hypnosis is in this connection of little enument; for it is evident that if any one professes to see without using his eyes, the whole question turns on the truth of that assertion, and that it matters little whether or not it is supposed to occur during hypnosis. But we must also sementher that the deepest hypnosis does not exclude the possibility of fitted. An instance of deception practised during hypnosis may perhaps be found in the case of Eisenstein's sommembellist, who peoplessed that she was about to spit blood. Ciermak, Voye, and Larger subsequently showed, microscopically, that this was bird's blood, which, of course, the contemplation had previously placed in her mount.

2. Unintentional delasion, if such an expression may be used. The subject may receive impressions through the ear, for instance, wannot being conscious of it. This occurs in transposition of the senses, the subject perhaps believing that it is with his stomach he hears. Or it may be in consequence of previous training that on the approach of the magnet transference takes place. It being assumed by the subject that the approach of the traggest suffices to produce transference, he arts in perfect unconsciousness that he is leading the experimenter astray. In the same may the percipient in telepathy guesses the other person's thoughts by signs, but himself thinks that the thoughts are transferred to him directly and without any signs being made.

3. Hyperauthesis of the sobject's organ of sense. We have already come across this in hyperois; a sometimes permits the hyperoise to perceive thirtys imperceptible to others. Let us, however, bear in mind that the term "hyperauthesis of the organs of terms" is not quite accounte, for the processes here concerned are really central. This so-called hyperauthesis can be produced by practice, and also without hyperois. By neglecting to take this circumstance into consideration we may.

easily by led into drawing erroneum conclusions.

4. Increased power of the intellectral faculties-e.g., the membry-may also prove minimaling. I recall the cases of

people who spoke in languages they had never learned left p. 456). We must also here include the increased power of drawing conclusions. This assertines takes place in the secondary consciousness. Humig relates the following case:— "A friend of mine, head master of a school, once dreamed that he was being toucked by the cold hand of his father, who had just died. The shock woke him up, and he heard a histing sound; but after a careful search he found that the gas was turned on and escaping. His secondary consciousness had perceived this, recognized the dauger, and sumed the sleeper in a symbolical dream." In any case, hypercies and people who are dreaming often come to each subconscious conclusions, but part of the conclusion may also be arrived at subconsciously in the waking state. Sometimes, also, an increased power of the intellectual faculties, a telepathic influcare or the like, is emonocously assumed when we are really only dealing with a combination of circumstances well within the experiences of daily life. It may easily happen in thoughtreading, as well as in telepathic experiments, that when the percipient is led in some way or other close up to a hor of eigars or a book shelf, he will take a eigar or a book, as the case may be, and that this was what was wanted of him. The process is so simple, that we need not look to any heightening of the subject's intellectual faculties or other astraordinary influence for an explanation.

I have higherto spoken of the sources of error that he in the person of the merium. I will now discuss certain others that

are external to the medium

a. We must first of all consider the mental state of that "behavers." I have already internated that most occultists exhibit a peculiar turn of mind. I do not mean to mply that there is any question of inamity in their case, though spiritual may be the result of mental disease. Annal delusions constitues lead their victims to refer the mode they bear to the vocus of spirits. But this is an exception. In the case of spiritists, a peculiar weakness of mind is of somewhat more hequest occurrence. But this also is, relatively speaking, sarely the case. On the other hand, we much more frequently find unbounded credulty and a tendency to exaggerate their own powers of observation on the part of spiritists. With negard to the latter point, it is interesting to observe how fould occultists and spiritists are of account ment of accirnce of over-

recenting self-confidence and exaggerating the value of science, although at in burdly possible to find in any branch of science men who suffer from overveening self-confidence to the same extent that the overwhelming majority of spinnists and occubive do: The latter believe that they cannot be dervised, became of the promutions they take, and also become their powers of observation safeguard them from decogition. But these precautions do not satisfy the requirements of objective investigators. Let use give an example. A spirit appears after the medium has been bound with confe. This sets a careful investigator thinking whether the medium may not have got loose and he representing the spirit, whereas the spirit at thinks that the medium could not get free, because he bound him bimself. He takes no notice whatever of the fact that the medium was only bound to his own liking. The real man of science is fully aware that he is Table under certain circumstances to sexua delusions, and more especially to delusions of memory. This fact, also, is never considered by occurtists. It is automithing what different accounts people who have taken part in such séasoes give of what occurred, when they are subsequently questioned separately. This applies equally to cases of spirituatic phenomena and clauroyance. Nevertheless, occultists are firmly convinced that their memory never plays them false.

As might be expected, numbers of openitists and spiritists are led by their exaggerated mystical tendencies to recognize occuli phenomena. Every one may possibly have a touch of mysticism in him. Even men of science are not necessarily rought, but they should be extremely cautious before accupting anything as scientifically proved. If is their their to them a sharp line between the domain of Billief and that of Science. Occultists do nothing of the kind; their saystical tendersion atterly prevent the spirit of amountic research having anything to do with the investigation of these phenomena, and they therefore believe, with a child-like credulty, anything they chrose. In addition to this, many occulrate and spirition hate science, because it includes them in one caregory. Instigated by the desire to affirm anything that science refuses to recogniss, they accept the most impadent performances of fraudulent mediums as proofs of clairvogance, transposition of the reases, animal magnetism, Od-radiations, and the like-The fact, already mentioned, that most of the people who

atendo a special domain to occultittic phonomera also believe in any other kind of occultistic phenomens, no satter how disconnected they may be, is extremely characteristic. I have already mentioned that animal magnetism carnot explain chareogance; nevertheless, se find that most believers in clairyoyance are also apholders of animal magnetions. The correcte is also the case. It is also noticeable that many accultints are also believers to homotopathy, nature-cares, regetarization and Japons all-wool regime, although these questions are in no way connected and have nothing to so with occultions. To a magnetopath, who describes himself as a representative of homocopathy and nature-cares, we can only say that homorogathy has no connection whatever either with magnetic thempeuties or with nature-cases. In the same way it is chiefly spiriture who believe in aterology. I have also heard it remarked in conversation that many occubiets and spiritists believe that presisting burial in anothing but a rare occurrence. Some people have even awared me that there are fre-proof human beings-iz, persons who cannot be destroyed by fre. It is obvious that many are influenced to enter on these mamers simply because of the implied revolt against orthodox opinion, nor can it he denied that the cause of occultion is furthered by the arbitrary refusal of many adherents of acadomic learning to give it a hearing. Harned of science and the joy of corporing it, combined with an uncritical tendency to mysticism, explain how it is that occultain acknowledge a belief in such heterogeneous domains of the the phenomenal as those of the divining end, animal magnetism, homosopathy, and the action of the magnet on human beings. If awald be safe to her on to a that, if reience were to for official rengultion to animal magnetism and transferition of the wave, a very large another of auxiliars would at once on server on attack on these beliefs.

2. As leather sources of error, I must mercion sense-delenions and all kinds of errors of perception. Spiritius are percicularly posses to sense delenions. One can readily observe at spiritotic scances the way in which send-darkness facilitates the appearance of all kinds of forms, and how accepting is magnified by magication. I remember a scance at which, on a lady declaring the could see an apparition, a gentleman present told her to close her eyes, because she was obviously not seeing with them, but with her stomach; and that, therefore, the could we

much better with her eyes closed. It is often very difficult to distinguish accountely from what direction the sounds and noises come. For this reason, spiritlets who are in a dark come believe they have the music of guesas that are dowling about in the air, wherein the instruments really remain in the same place all the time. It is the same with the "rays" which apprictes declare proceed from the tablecloth or the table nself, although they are really produced by the medium's foot. These illusions of perception extend even farther. Any one who wither to see inanimate objects move of their and accord, and who for a considerable time sividly expects the occurrence of the phenomens, is very likely to too such movements, although the objects never stor from their respective positions. It was precisely in the case of Hamack's subject (n. 505) that I haw how natily tention of the apparatus of attention leads to the illusory perception of movements which objective investigation pooves never took place.

3. Blusions of memory constitute another source of error. I have already poinced out their importance when discussing cases of the supposed appearance of dying persons to friends or relatives at a distance, and will only add that Christian considers illusions of memory a special source of error in telepathic esperiments. In clairvoyance, also, it may happen that when a phenomenon occurs many people may believe that they have seen it before. Memorate adaptation, which has already been mentioned, is just as important as illusions of termory, because details that do not force an occultistic interpretation of the phenomena may be subsequently eliminated.

by a capticious use of the imagination.

There is one special form of illusion of memory that has one considered in many cases. It has been described by Bernard Leroy, a French author, who calls it Manise de Ansor representation, but Sander, Kraepelin and others had previously reported cases of the kind. The phenomenon comins in a person having the impression that he sees or experiences something for a accord time, which is really perfectly new to him. Although in most cases the error is at once corrected and the illusion recognized, there are others in which this does not occur. This is porticularly the case in mental disease, but it may also happen when the subject is perfectly normal. The effect produced an some people by this phenomenon is persian. They neither consider the whole affair an illusion, nor do they

intiese that the incident had ever really once happened to them; on the contrary, they are convinced that this is in first occurrence, but they believe that they have once had a mental ration of it. This leads them to the conviction that they passess the power of previous, and some indeed, declare they are claimoyant in their dreams, others in the waking state. Undoubteelly this mnemonic error explains many cause of prophetic dreams and also of accord sight, which latter, according to Perty, is but the vision of a present or caming creat seem in a rapidly-passing definism occurring in the waking state.

We have also to section with a further source of error that has in the memory. It consists in a person being under a defenion as to what he specificated at a particular time. An example of this. X, went to a clairvoyante who told hirs of something that had happened to him years before. He admitted the accuracy of her statement, but schaequently explained that he had completely forgotten that episode of his life until the clairytyante reminded him of a. From the he would have its believe that the clairsowinte could not have acquired any knowledge of his past either by telepathy or from any signs made by him. A careful investigation of several of these cases has provided me with almost irrefutable evidence that X, may quite well have recollected the episode during the seance but have observed thelleved that he had previously forgotten all about it until reminded of at. During the seances the clairroyante by her remarks drew X is attention to things he had forgotten, and the associations thosely aroused refreshed his memory on various points. The excitoment that presulted and X/s feeling of espectance favored the stirring up of such recollections. As we are when discussing telepathy. directly a subject recollects anything the fact is easily betraved by his making some sign. The prevailing exotement smooths the way for subsequent unacoonic errors, so that X. is quite unable to docide later on whether he remembered the epitode of a certain moment or whether the chirsoyante made him think of it at that mumeri. We know that this kind of confusion of memory often occurs, and I consider it far from emprobable that the scances of the "green medium" Mrs. Paper stry he partly explained in this way.

Mrs. Poper is an American meritane. It is that of Mrs. Piper -or, rathers of the spire that is supposed by spirition to not through her—that, or the

towns of some very carefully confineted experiments, the spoke of things of which the could presionally have laid use knowledge. The uses frequency cited ones are those in which she beld streets with Professor Hydrog, to whose the communicated facts concerning his dead started, which appropriate the most and have tourned in any ordinary way. Man Demais does not consider this a case of simple fraud, and we must admit that if it was, the fraul was perpensively very community. But May Demay also thanks that the telepathic theory fails to afford an explanation, for the very renew that Hydrop may very well at one time have become all these matters, but that he was certainly entrance of them when the medium related them. Now, May, Drinter therein that there is pertainly an initiate of a medium lawing acquired by relegathic massa a knowledge of what is unconsciously retained in comber person's missory. Since Hydrag, memorar, and agreement of these matters at the time the cardian menioned then, I were that we may asminir the possibility of his having guided her by signs. Nevertheless, I do not that that it is necessary to appeal to unautilize for an explanation of the case. In the fint place, the throny of fraud was not actually disposed by the investigation. They say they tack all hands of promotions, but it has not been proved that Mrs. Piper might not have pertinuity found out at least neath of what she communicated. There is no negeticy in master that all superses run by explained in this way. Detion pertainly further admits that some of the sucomes might be assumpted for by the medium carefully justing together all that the heard during the stance. When, he example, the medium posed as the splitt of Hestop's dead father and mall to the you, "You ain pur the strangest man," and the son named of, " He womed me bandreds of times that I was not as strong as other people," May Dennir thinks that this can be replained by the first that any one earth are that Hysky was not very rabust. At all events, some of the rases could quite will be explained in this way. When we further come to consider that is a whole terms of cases the statements were wrong, there seems so be very little necessity indeed for our assuming that Mrs. Prive passeness anknown powers.

The fact that meaning is not intellable also fills see such missest. In any case, some one was project or Hydrog's experiments who was acquisited with the equication related by the continue, and of whom, if how, if was not proved that he was ignorant of their accordance. We may not that internating monthly recovered showed that were if the continue and that internating monthly recovered showed that were if the continue and the late.

cas le rery mal's orphisen in more commentered

4. Suggestive gestures and other signs, by means of which the subject learns what he or she is expected to do, play an important part in those sources of error that he outside the person of the subject. When dealing with the question of the training of hyprocies I explained has often the latter persons aignite in the most unimportant signs. We can readily nationally that such imaginicant upon given by the experimenter or anybody site present constitute an important source of error. It is exceedibly to hyprociam that we over the discovery of this

source of error, since the training of hypnotics clearly showed that even insignificant signs art suggestively on the subject experimented on. When discussing apper-normal throughttransference, I gave a detailed explanation of the way in which the most diverse organs of some may help the subject to make me of such signs. Consequently, whenever there is the possibility of the subject being influenced by signs, it is the fest duty of the experimenter to impose such conditions that the subject will be untible to perceive such signs. As another of the chief sources of error I must, moreover, and the circumstance, that if the experimenter or any other person present believes, or begins to believe, in the reality of the phenomena. they very easily become unintentional accessories of the medium. It is just the same as with pable-carning, in which the believers push harder than the unbelievers and so set the table in motion.

It must also be pointed out, that by means of signs shings may be communicated which, at the same time, are nonexistent in the primary consciousness of the agent who commanicates them. We have already seen this in automatic writing (p. 246). But if, as Lehmann and Harmen have pointed out, unintentional whispering plays so great a part, it is quite concritable that some people, perhaps those who are psychically predisposed to the influence of processes going on in the secondary consciousness, may be induced to whisper by such processes. I am led to this assumption by the reflection that involuntary whistling is a process analogous to automotic writing. If subconscious processes can be communicated by means of automatic willing, it is presumable that the same thing can be done by whispering. In any case, I have recently learned from some experiments I made—they did not produce mything new in this respect—that thought reading is possible even when the subject is not conscious of what has to be done. I requested a hypermized subject to write down one problem I was to solve on a piece of paper. In one case I was to take a dister from its place and put it in a cigarbos. The subject wrote this down on a piece of paper which also folded while I stood apart and therefore had no knowledge of the enture of the task. I then suggested to the subject, who was will in hyproxis, that on waking the was to 6s her thoughts intently on the task but was not to remember its more consecondy. At the same time I suggested to her-I

had often made the ordinary morghi reading experiments with her-that she was not to notice whether she made any movement or was guiding me. I then woke her up. In spite of the fact that I did not know what the task was, I performed it correctly, guided by her. Since the task was written on the paper the experiment was easily controlled. The subject neither knew that she moved not was she conscious of the processes that made her do so. This case is only intended to show that processes going on in the secondary consciousness can came the subject to make signals. The experiment was quite a simple one. Finally, if this port of thing does happen, the gasamption that there are people who can make known the processes of their secondary conscioussess unintentionally and without nothing it mould not be contrary to our scientific ideas or the views so already hold. This is also a very important source of error in clairstyance, and may have played a part in Hyslop's experiments, for, at all events, it was never proved that he had not previously heard of the things that were then told him about his polatives-40, that the matrors in question were not hidden in his according removances. Eberhard Wolff even attempts to utilize the case of Mrs. Piper as a proof that unintentional whopering does not explain the phenomena of telepathy. I do not consider that the conclasions hitherto arrived at finally decide whether subconscious processes may not be communicated by involuntary whispering.

4. Fictitious interpretation. It should not be forgotten that the sust majority of prophecies are as indefinite at the sayings of the Delphian Oracle, but that the subsequent interpretation of them leads the uncritical to believe that even clairveyance is an established fact. We come across a similar phenomenon in cases of thought-transference. As Lehmann and Hanun have shown, the drawings said to be reproduced by telepathy are often so indefinite that they may be taken to represent anything you please. They have shown, for manuely, that the same drawing will do for a candiestick or a cat. Whoever withers to prove the reality of telepathy gives any interpretation he likes to a drawing. A book by an assurgmous writer, H., that appeared in 1848, contains much interesting information on peoplessing. We are told that should the event not agree with the prophecy, we must remember that everything contained in a prophery is not to be taken literally, so which is only metaphonical. As an assumpte of the ambiguity of psophecies

Henrig cites the case of Malachi, who is said to have clusterteriood each Pope by a short descriptive epitheten. Thus Leo XIII, is said to be referred to in the words Lumon do Codo, and his successor is altournested by Igais ardem. Now, Hearing shows to how many cardinals this prophecy, might apply if only a little ingenuity were exercised in laten preting it. It would describe that restless being Rampolla accurately. Cardinal Stanga might also have been meant, for anarotic is Italian for touch; but it would also apply to Cardinal Gotti, whose cont-of arms contains a torch; or to-Cardinal Capecelatro, an idealist filled with modern ideals. But it would apply even bester to Cardinal Holtenlahe, whose rame is a literal translation of Ignis actions. But when Caselinal Serio, of whom nebedy had ever thought, was made Fore, Malachi's prephecy was interpreted as pointing to him. But as there was nothing firty about Cardinal Suito, either intellectually or in his temperament, and, on the other hand, Malachi could not have prophesied falsely, it was discovered that the coat-of-arms of S. Dominic, on whose day (August 4th) Sarto was elected. Pepe, contains a dog from whose mouth a flame issues, and it was at outs said that the prophery Ignia unless referred to Cardinal Sarto, and thus Mahenr's prophery was fulfilled. Hensig has done a great service in dissecting this case so thisroughly. It is only by quibling that so many, many prophecies are made out to have come true.

Spiritute have lately been very food of quoting the following cose as a penal of slausopasse. On the evening of June 20th, 2902, Charles Righet held a mediamistic atmos. The people present wished to hear "tups," and they did. The following worth were supped out :- "Bincolous" and "Rigococlimatic." Directly fliches tool these worth he is supposed to have been tirude with the idea that they formed a complete sentence with - definite recentley, and he desighered them in following-allows is most parety paretty. This communication was support for between 10.45 s.m. and 12 s.m. On the following day the news arrived that Queen Dyags of Service, regerber with the long and her limity had been marriesed over right, and the sentence was immediately made to refer in that spine. To accomplish this the following method of interpretations was accountry, limics was convented toro Panta. Richet thought It was to may to micrally a B fine a P. The Germann have a way observing stone health's tentent of junes (author), and the Society promociation of T is best opposited by the French Cor Z. The more of Queen Denga's father was Posts, and the sentence consenses the settened to him and a shour to menter his familie. Known containly assessed that the words, "In most gueste famile," wight apply to any named of families, and that it was atmosphently necessary to calculate the probability of flance having born respect our carractis. This

he found to be 1: routes. Consequently the choice by between coincidence and charveyance. Histor assumed that it was a case of chireconce, because a Press Agency in Parts received the news of the market of 10.45.

rite, the mane evening.

I have asked different pumple what they would read into such a sentence as "Harry is more quite family," and most of them explied the the world "Barry," would make them that of " a back," and that they should never think of turning it jute " Punts." At all events, I should have been much more inclined to find the case care of chalconyance if any great hank had haled and driven one or two people to mittile. The theory of chirveyance would have modified equally well to either supposition, make or Richet's. Another man I questioned thought the sentence referred to death on a glarier. He considered "Brance" merer "Blance," white death, or elevath on a glatter. I think that say one from the Sanda Manata would have referred it to Hanca, an inland cast of Seconds. A man, who was interested in surject areas, said it must mean Rancal, a town for a coaved salice. A lady to whom I shound Richer's fettering, "bracelano rigorodinalfic," mid-It made her at more think of calterent, as if something had been done with ethnus. Another sate said it remistled him of a Bas of Crostia, because "han" was the French for it. I looked this up in the dictionary, and can only say that "han" has so many remaining that it might be made to supply a doorn-one, hundreds and even thomas do of interpretations of that peoplesy. The Richet was determined to have it that the number of the Service Koyal Family was conveyed to Faris by means of clairscenario, and so he presed it.

Richet's method of trening Parts into Banta and Barta into Parts reminds one of those philological tricks against which we were warned to me actived they. The limits diedges by means of which one word could be during from mother by thoughng a lotter; always, of course, on apparently

scientific paramia.

6. The probability of chance success. As many experiments fail, it should be comidered whether the number of successful ones excoods probability. Preyer, however, is inclined to think that for our objects statistics of probability have little significance. But if such calculations are to be taken into comideration they must be made correctly. Richet's case shows how little this is thought of. He calculated the probability of "Banca" having been correctly given at 1 to 10,000. But he quite overlooked the fact that " Sanca" was not spelled as one wood; it was wrapped out as "Barcalamo." He also overlooked the fact that if the sentence had not been made to fit in with the murder of the Service king, it might equally well have been made to refer to a thousand other episodes, as I showed in my explanation of fictitious interpretations. Moreover, he did not take into account the frequency of false peophecy, or, more especially, how often things have been communicated at his own scances which were never substantiated. It is only when all these matters are taken into account that we can ascribe any reasonable importance to probability, But to pick our arbitrarily some point that favours clairvoyance, and at the same time to pass over unontable elements, cannot give a correct picture of the probability that the clarroyant was accurate in his prediction. It almost invariably happens that prophecies to which but one meaning can be ascribed are only published when the event prophesiod has occurred, a circumstance that does not exactly show that much credence is to be placed in previsional charrogance. Neverthelms, a few cases have been published beforehand, though certainly with marvellously had results. Only, spiritists are much too fond of suppressing their failures; for example, I have been unable to find that any further mention has been usade of the prophery published in 1849 that Deeyfus would die in 1904. There can be no sense in calculating the probability of success in cases of clairvoyance unless the failures are included in the calculation.

7. Coincidence. E.g., a command given is thought may be obeyed, because by chance, or for some other reason, experimenter and subject think of the same thing. In telepathy the first order thought of is nearly always that the right arm should be raised. This source of error is both great and interesting. It has lately been carefully examined by a member of the American branch of the Society for Psychical Research, C. S. Minot. Thus, it has been discovered that every one prefers certain figures, etc., which recur strikingly often, even when the choice is left open. Now, when in a telepathic experiment A. thinks of a number which is to be divined by B. without the latter making me of any known method of perception, it would be necessary to discover if they profer the same figures, if they have the same "number habit." This must also be weighed in experiments with cards, in which it appears to me the act of hearts is very often chosen. It is evident that great case must be exercised in drawing conclusions, and that the study of mysterious phenomena leads to the recognition of important laws.

We have already come across coincidence as a source of error in the supposed appearance of dying persons to their friends who are far away. What Parish considered as coming under the fourth source of error was really a special case of coincidence. Coincidence and fictions interpretation together very frequently lead investigators into error, because the greater the number of interpretations that can be given to a manifestation—e.g., in clairwayance—the more likely will the case be one of coincidence.

It sometimes happens that the probability of coincidence is so great that the manifestation is ofterly valueless. In the case of the medium, Mrs. Piper, it is mentioned that Hyslop was asked by the ghost of his father at one of the searces: "Do you remember the penknife with which I used to clean my nails?" Hysiop said, "No"; and the spirit replied, "You must remember the little knife with a black handle, that I first of all. carried in my waistcost-pocket and then in my cost-pocket?" Hyslop then wrote to some of his relatives and learned that his father had postessed a black penknile with which he cleaned his nails. "Only it appeared that Hyslop senior did not carry the knife nither in his waintcont-pocket or in his cost-pocket, but in his trouser pocket." In the preface to the German edition of the book in which Mrs. Piper's feats are described, Schrenck-Notzing remarks with regard to the above and other cases:- "These examples are quite satisfactory as far as minor details are concerned." I must acknowledge that this example does not satisfy me, and that I am as little satisfied with the other examples with regard to either major or minor details. In any case, rumbers of people carry a black handled knife with which they clean their nails. Hystop's experiment failed in one important point; his father did not carry the knife in his waistcoat-pocket or coat-pocket, but in his trouser-pocket. This point is certainly mentioned, but only in a way that would make the error appear to be of no importance. I do not cuite understand what things of this nature are intended to prove. At all events, as far as the know was concerned, the probability of chance excees was so great, that the whole episode cannot be said to have proved anything.

If any good is to come from the investigation of the phenomena of occultion, the way in which the minutes of occultistic seances are kept is of the greatest importance. I consider a systematically kept protocol a necessity, but I no longer think such documents as convincing as I used to do. A superficial glance at the published protocols is often convincing, and spiritists are very much autonished when doubts are expressed as to the accuracy of the reports.

Unfortunately, it is generally found to be quite right to doubt whether these reports are a faithful reproduction of what actually occurred. A few years ago, I was able, in an essay emitted Physician and Judge, to throw some light on the untrustworthiness of the official records kept of the peaceedings in magnitudes' courts, about which I gave the following explanation:- "These records are not calculated to give a correct view of how such cams are conducted. If a protocol is to have any claim to accuracy it ought not to be a mere virant of the proceedings, but should be an accurate transcription of the shorthand notes of every question and answer, It ought to be possible to gather from the report whether the witness hesitated or vacillated, whether a question was first of all answered in the negative and whether an affirmative answer was only given after the question had been frequently repeated. In such a case the affirmative answer could not to be quoted by itself. It is only when the protocol seconds that the witness heritated or was at first silent, that any weight can be laid on such a document." The above concerned judicial records But I held the opinion that we racut demand as much of the records of occultuitic investigations. When much convensation goes on at such seances, only an extremely expert and persevering stenographer can follow the proceedings. But even such a one is quite anable to reproduce mimetic tigns in writing. In addition to being an extremely expert shorthandwriter, he must be able not only to decide when he is to insert the word "stop" in his notes, but also the tone in which it was said, and that is hardly possible. In short, even stenographic notes are extremely untrustworthy. In addition to this, most of the minutes are not even taken down in shorthand; or, at least, not in the same way that the proceedings in Parliament are. As a rule, some one, who may possibly be prejudiced, dictates the notes at a seance. Of course, if the person who dictates is prejudiced, and anything occurs that is not in accordwith occultistic views, he will involuntarily fail to record it; or, at least, give it no prominence in the report. He will consider such events mere trivialties, whereas they are of the atmost importance to a really objective investigator.

As we have already seen, Crooker his written an account of his experiments with Home, which obviously contains many important additions. But how little value he attaches to these important "trivialities" in best shown by the fact that he

centred them in the first edition; as a natural consequence, this edition has long been the mainstay of spintists. A second edition appeared later on, which, as Lehmann has shown, entirely commudicts the first, because the "trivialities," which showed how unreliable the whole sennce was, were left out in the earlier publication. Spiritists are strikingly reticent about this erhicism of Crookes' experiments; at least, they have never attempted to controvert it. This is all the more important because Crookes' experiments were formerly held up as the now Alirs within of research, and were said to be unimpeachable, If an author leaves out of his account of an event the most important details, even when the latter are mentioned in the official records, it is easy to guess what may happen even in the way in which the records of other cases were originally drawn ses. T have no doubt that the same sort of thing occurs in many cases of thought-transference. Schrenck-Notzing admitted, in reply to some critical remarks which Richet and I had made about his telepathic experiments, that he "did not consider it altogether impossible that some of the published reports were so coloured-unintentionally and involuntarily, of couns—as to give a favourable impression of the results obtained." It is particularly important when investigating cases of telepathy and clairvoyance, to notice the different things the mediums have a shot at. Any one can easily observe at such seances that the correct result is only obtained after three or four failures, but that once obtained, the epirities present are jubilant and suppress any reference to the failures. It is anything but easy to decide to what extent these failures that are so quickly forgotten are considered in the published reports. I certainly surmise that they are left out in numerous cases, and that only the successes are reported, most of which can be explained by the laws of probability, or by a correct combirmtion of the circumstances of the case having been made.

In short, it must not be imagined that the official report of a scance gives an accurate account of what really occurred. For example, a clairvoyante as a rule never gives a connectaint account of anything the is supposed to be describing; the hesitates and pantes until some one persent, either by sodding or shaking his head—perhaps untutantionally—gives her the rate that the is on the right track; or some one sight, which is also a sufficient hint. Grittener has already very properly emphasized the fact that certain subsidiary details which are of great importance may easily escape the observer. Here we have just the same thing happening as in juggling, in which those of the orlookers who think themselves senartest believe they see everything, whereas they really miss every cuential detail. I should like to refer once more to the case of "Clever Haus," because it alsows the exact rather of these protocols. It is true that Strongs did not publish the detailed report upon which his fallacious statement was based. But Stumpf's own statement clearly proves that he did not see the most important thing that happened-wis, the signs given to the horse. If we adhere to the fact that such a thing occurred in the case of a committee over which Stumpf presided, we can make a very shrewd guess as to what happens where other experimenters are concerned. The gentlemen who are supposed to investigate clairvoyance and other mediumistic phenomena are taken in, just as Stumpf was in the case of the horse. When we are assured that the clairy by wites were acquainted with things that so one else knew, I am compelled to add that the same was said of "Clever Hans"; for example, Herr Grabow, a mumber of the Council of Education, and one of Stumpf's committee-men, persistently maintained that "Clever Hans" made correct arithmetical calculations, even when no one present was aware of the problem set.

We have also to recken with the fact that most of the people who make such experiments are lowers of the mysterious and earnestly desire successful results. In such cases everybody sees what he wants to see. I do not intend to blame spiritists, sec., specially in this respect, for it is a matter of daily observation that proconcerned notion observes the view of scientists as well. A few examples will show how easily this occurs in other respects. There are districts in which prayers are offered up for rain when there is a long-continued drought. Any one who believes in the efficacy of prayer is easily able to prove to his own satisfaction that early petitions are answered. A second example: I remember a lawyer in Silenia who family believed in a preparation for making the hair grow; atthough nebody could penceive any diminution in his buildness, he was thoroughly convinced that he was putting on a fairly strong fresh growth of hair. He tooked in the glass every day, and always thought he could detect fresh hairs. A third example: Children are convinced that the song, "Fly away, lady-hied?" really makes the insects fly. They keep on singing until the lady hirds fly off of themselves, and then they believe that the song was the cause. In short, we observe how in each of these cases the wish to see a thing happen misguided the judgment, and the same thing occurs in spirituite scances, but more especially with respect to the way in which the minutes are kept. Even in the case of doubters the experiments cause such a tension of the apparatus of attention that their mental condition cannot be said to favour the exercise of enticion. We have also to consider that the whole unvironment rarely or never favours the formation of an objective decision. With some people it provokes laughter, but on others the emotional affect in such that they cannot judge the proceedings from a cold-blooded point of view.

As I have already mentioned, we need not attach much importance to the fact that a few savants uphold the reality of nocultistic phenomena. I myself formerly attached a certain amount of importance to this fact. But since I have observed the otter helplessness of savants directly they enter on methods of investigation with which they are not thoroughly acquainted, I have become convinced that mediums easily lead great areants by the nese. After one or two stances, mediums easily recognise what will satisfy one person but not another. I restember once meeting a savant of my acquaintance, who was a believer in occultistic phenomena and especially in the minacles of Emapia Palladino, and how instructive that resource proved to me. When he explained to me that he had seen objects move and tables which were not attached to the medium jamo up in the sir, I told him that I had witnessed similar phenomens, but did not comider them consisting, as the whole proceeding could very well be worked by means of a string. He thereupon assured me that he had examined the subject, and was therefore continend that she had no string about her. I then asked him how long the examination lasted, and his answer showed that it only took up a few minutes. I then told him how automished I was that he should think himself able to discover in a minute or two whether a woman had a string concealed about her person, and I further assured him that all professional jugglers would agree with me that a thosough commisation was extremely difficult. But he remained obdurate; it was enough for him that he had examined the woman. This only shows how careful we should be to avoid being imposed on by anthonium!

When I come to look through the yest literature of occultions, I find that I am totally woulde to discover over one single series of experiments that corries with it a maximing proof of the reality of acceleratic phenomena; nothing but cannot observations or archecked experiments. There was a time when some of the telepathic experiments canned out in England-more especially those made by Gathrie and Erchall-appeared to me, relatively speaking, free from error. Nevertheless, when I take into consideration the way in which the reports are drawn up, I am compelled to admit that those experiments are not convincing. As Max Densoir has pointed out, it is only when a single experiment is selected and then performed under varying conditions that we can speak of a scientific

investigation (cf. p. 532).

There is nothing to be said against the present investigation of isexplicable things. Almost all great steps in natural science have been made by some one who had the courage to contest existing views, in spite of the danger of looking ridiculous. Harvey was obliged to struggle with the projection of his colleagues for years before the circulation of the blood was accepted. The fall of meteors projected by other celestial hodies was long denied. Modern anatomy was founded by Andreas Vession, who had to fight hard against the prejudices of his day. Helmboltz relates that a very distinguished surgeon told him he would never use the ophthalmoscope, because it was dangerous to throw a glanny light into a patient's eye. Another declared that the instrument might do for doctors afflicted with weak sight, but his eyeright was good and did not require such assistance. As we see, the fact that a thing is attacked ought not to prevent its being investigated. The assertion that a thing is contrary to the laws of nature and therefore wrong should not be comidered conclusive. The contradiction is often merely apparent, and the laws of nature, as we call them, are only derived from facts we have observed. When new facts are observed which do not agree with laws of nature we have been accustomed to accept, it is our duty not to deny the facts, but to modify those laws. Theories never precede facts. Observation and expensions come first, then theory (Sponcer). The electric current does not cause nameles to contract because the book says so; the book says so because the current causes the contraction.

In spite of scientific doubt, truly great men always endeavour

to avoid dogma and a priori concinions. If they cannot examine everything themselves, they yet comider a scientific examination even of the improbable necessary. An example which Dolhoud brings forward may be mentioned. Durwin once wished, it is said, to examine the influence of music on the growth of plants, because such an influence had been spoken about before him, and he therefore made some one play the bassoon for several days, close to some planted beans. If this anecdate is not true, it is well invested. The necessory of degree distinguishes mines from Mind faith, but to say a fact is companied beares: if it opposed in the leave of nature is to degree to.

Our knowledge of nature is still very defective. No one has ever explained even the simplest mental process. No one has explained how an ovam, fertilized but soulless, develops into a being with a total. We have not the remotest notion what goes on in the brain when the will acting through it and the nerves causes the numeles to contract. Indeed, we do not even know why an apple falls to the ground. The most elementary processes are heaplicable wherever we look, and most people do not think them inesplicable because they see them every day. Some one has justly said that dreams, as well as byprotium, might be called swindles if they did not happen every day. The world still puts so many tiddles before on that it is quite inadmissible to attempt to shirk the inventigation of certain processes on the ground that they are contrary to the laws of nature. Science is still very far from having achieved a position that would justify such an attitude.

We do, indeed, flatter ormelyes that knowledge has reached an extraordinarily high degree of perfection. But if we look back, we find that the same opinion was held in the past. "No one acquainted with universal history and the exerincerating field of scientific research can doubt that our century which is now drawing to a close, and more especially the last ten years of it, will be placed by an impartial posterity at the head of the most brilliant and marvellous epochs in the annuls of markind. . . No matter whether we direct our attention to the domain of the tricences or the realess of roture, we are filled with automishment and wonder at the extraordinary progress made in our days." That was the opinion expressed by Fikenscher in 1709. And Wichard wrote in his emay on magnetism, published in 1787:—"At a périod in which

knowledge is so much more general than it used to be, and science stands on a higher pedestal than it ever did before, etc." Belief in the unparalleled development of scarce is common to all ages, and for this very reason it is our daty to discover whether it is justified. Our knowledge is so incomplete, and whichever way we look so many riddles meet our gaze, that we have no right to flatly relate to recognite any domain of newarch.

In spite of the progress which the exact sciences have made, we must revertheless admit that the inner connection between the body and the mental processes is utterly unknown to as. Under these circumstances we should not refuse to examine the apparently inexplicable. Let so, Keivener, impour more conditions, and not exapt one facts on notherity without proof.

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317. .. 4. .. Pewniki spar Teachtki. Alde to 15 from bullow, for Friends road Frenkels

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-Ittle ... IR after puripheral enters ormer (Hitger, van der betrie).

7. Art Porel med Pales A880 ... -

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7, for distributions may dissociation. 4471 ... -

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Them better, for Beich and Rowled. 35%



176. Hyproses is not sleep. \$156 Alvere of training from \$15.8. Holstwoter very clear & \$ 467 Ironseries follows working for tron \$ 87 coldpy of arm 1230. Suggestetating inversed in hyponom 235. Response to one suggestion format response to later one - (almostful rollow by other) 235. But recessory to begin with uses - left by of typnosis & 65-6 Brildly a platent of his view at rolle indevet - that hyprosis has a heightered suggestibility 67, Suggesteon corrected with association mule: Brilley ambi \$230 + 264

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8 g 124 Hypermessa. while noticed or P. H. A. p588, 61, 123, \$1614 amneseos associated with P. H. S.

\$243. Blande but not good there, J. A. A.

